BCRA Review

BCRA

British Cave Research Association Annual Review for 2025



ISSN 2516-1423

BCRA Special Interest Groups
BCRA Grants and Awards
BCRA Scientific Meetings
BCRA Officers' Reports
BCRA Publications
Additional features
and Appendices

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BCRA Contacts (as of September 2026)

Please visit our web site to obtain email addresses for these contacts

General Enquiries		
Online Access to Publications	**David Gibson**	bcra.org.uk/online
Membership	**Katie Eavis**	bcra.org.uk/fees
Publications Sales	**Katie Eavis**	bcra.org.uk/bookshop
Hidden Earth (National Conference)	**David Gibson**	hidden.earth
Other Enquiries	**Jo White**	
Registered Office	Old Methodist Chapel, Great Hucklow, BUXTON, SK17 8RG	
Honorary Officers		
President	**Simon Bottrell**	
Chairman	**John Gunn**	
Secretary	**Jo White**	
Treasurer	**Andy Farrant**	
Library Operations		
Librarian (incl. donations and journal exchanges)		caving-library.org.uk
Library Operations (e.g. for volunteering)		
Legal Deposit (i.e. deposits by BCRA to BL/ALDL)		
Publications Editors		
Cave & Karst Science	**John Gunn and David Lowe**	bcra.org.uk/cks
BCRA Review	**Phil Wolstenholme**	bcra.org.uk/cks
Cave Studies Series	**David Gibson**	bcra.org.uk/rv
CREG Journal	**Mike Bedford**	bcra.org.uk/cs
Caves & Karst of the Yorkshire Dales	**Tony Waltham**	bcra.org.uk/cregj
Funding		
Research Fund	**Andrew Chamberlain**	bcra.org.uk/research-fund
BCRA rep. to GPF committee	**Chloe Snowling**	gharparau.org.uk
UK Cave Conservation Emergency Fund	**Jenny Potts**	bcra.org.uk/ukccef
Science Posts		
Science Symposium	**BCRA secretary**	bcra.org.uk/sym
British Cave Science Centre	**Andi Smith**	cave-science.org.uk
Conservation Officer	**John Gunn**	
Biological Recorder	**Graham Proudlove**	bcra.org.uk/biology
Special Interest Groups		
Cave Archaeology Group	**Linda Wilson**	cag.bcra.org.uk
Cave Biology Group	**Andrew Lewington**	bcra.org.uk/biology
Cave Radio & Electronics Group (Enquiries)	**John Rabson**	bcra.org.uk/creg
Cave Radio & Electronics Group (Editor)	**Mike Bedford**	bcra.org.uk/creg
Cave Surveying Group	**Andrew Atkinson**	cavesurveying.org.uk
Explosives Users Group	**Phil Parker**	eug.bcra.org.uk
Administrative Posts		
Safeguarding Officer	**Russell Myers**	
Internet		
Postmaster and Webmaster enquiries	**David Gibson**	
IT Manager	**David Cooke**	
Facebook (BCRA)	Admins: Mike Butcher, Andy Farrant, Jan Gunn, Chloe Snowling, Rachel Thompson, Emily Tilby, , Jo White, Linda Wilson	facebook.com/groups/ britishcaveresearchassociation
Facebook (Archaeology SIG)	Admins: Tony Brocklebank, Tom Elliot, John Howard, Kevin Philbrook-Smith, Vince Simmonds, Linda Wilson	facebook.com
Facebook (Biology SIG)	Admins: George Breley, Andy Lewingdon, Thom Starnes, Will Whalley, Jo White	facebook.com/groups/bcracavebiology
Subscriptions to Mailman Lists		list.bcra.org.uk
BCRA News Forum		bcra.org.uk/forum
CREG Forum		bcra.org.uk/cregf
Council Forum		bcra.org.uk/council

Council Members

The trustees form the charity's governing Council. There are ten elected members of Council, plus the President (chosen by Council), totalling eleven; and up to three additional trustees co-opted by Council from time to time. This totals 14 trustees. **Members of Council in 2026** (with year of appointment. † indicates co-option for the current year)

Simon Bottrell (2022; president)
Andy Eavis (2010)
Andy Farrant (2016; treasurer since 2017)
John Gunn (2013; chairman since 2015)
Russell Myers (2021)
Jenny Potts (1973)
Mike Rogerson† (2022)
Rachel Thompson (2026)
Chloe Snowling† (2023)
Emily Tilby (2024)
Jo White (2017)
Les Williams (2017)
Linda Wilson (2022)

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Published in October 2026

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Front-cover photograph:

'Iridescent Biofilm on a Water Drop' was taken in the adit of a lead (and zinc) mine in Nenthead, Cumbria. This area is normally stomped past by explorers on their way to see artefacts or colourful formations, but on walking slowly the occasional glimpse of iridescence will catch the light from your head torch at certain angles. There is ankle-deep water on the floor of the walking size passage, still with a tramway in place, and the passage walls are damp enough for mineral-stained formations to have developed over the past couple of hundred years. There are very small snottites in the area, but the pH of the water is untested as far as I'm aware. Calcite in the area is predominantly orange or black, indicating manganese oxides and lead oxides.
Photo and description: Helen Nightingale.

Back-cover photographs:

A selection of images related to ongoing research, or documentation of underground phenomena.



A *Unusual lilac-coloured platy epimorph of fluorite, overgrown on a matrix (long-dissolved) of another mineral, probably calcite or limestone, and found as a single small outcrop within a pipe-working in Castleton reef limestone. The fluorite crystals had subsequently partially de-aggregated, and were then re-cemented with a further wave of fluorite mineralisation. Tiny dark spots suggest oil inclusions, and the colouration is possibly due to radiation from the once-overlying uraniferous shales. Photo and description: Phil Wolstenholme.*

B *This immense tunnel which, in places, reaches 60 metres wide and up to 100 metres high, carries the Reka River through Skocjan Caves. Part of its route is open to the public as an impressive show cave. The water flows underground for a total of 34 kilometres, to finally emerge at the springs of the Timava River, near the Adriatic coast. Photo and description: Martyn Farr.*

C *Adwait Keole watching a newly discovered colony of bats in Lungchung Khur cave, Meghalaya, India. Lighting for this photo was kept to a minimum, to disturb the colony as little as possible. Now one of the top 10 longest caves in India, Lungchung Khur was newly found on the 2025 Caving in the Abode of the Clouds expedition, and is a beautiful example of a classic Meghalayan river cave. Photo and description: Benjamin Richards.*

D *Mummified cat skeleton, lovingly named Maček Muri, found in 2022 at approximately 150m depth in Vručični Snovi jama during the Kučka Korita, Montenegro expedition, organized by Mike Ficco and Katarina Kosič Ficco. A palaeontologist identified the skeleton, based on the photos, as a species of wild cat. Researchers took a small piece of the skeleton and sent it for carbon dating. Several mummified bat skeletons were also found in the area. For more information, please contact the organizers of the expedition. Photo: Jeff Wade. Description: Mike Ficco and Katarina Kosič Ficco.*

E *Mud cone stalagmite in Fault Series, Ogof Ffynnon Ddu 1, in a rarely visited passage just 15 minutes from the entrance, taken with iPhone 11 Pro and headtorches. Photo and description: Cerys Williams.*

Editor: Phil Wolstenholme.
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BCRA Officers' Reports

Introduction

This is the eleventh in our series of Annual Reviews and it covers activities during 2025. The format of the Review has remained broadly the same as in previous years, starting with reports by the Association Officers, and then summaries of the Association's publications, the work of the Association's Special Interest Groups, the Association's Grant and Awards and reports on BCRA Scientific Meetings. The latter includes monthly online Seminars and Hidden Earth. There are also reports on the British Caving Library and the British Cave Science Centre at Poole's Cavern. Once again, the Review has been edited by Phil Wolstenholme, who is thanked for his work.

John Gunn, BCRA Chairman

Chairman's Report

The following text is based around the Chairman's Report delivered at the 2025 BCRA AGM, which was held at the University of Bristol and broadcast to a wider audience via the Zoom platform.

The BCRA trustees form the charity's governing Council. Ten members of Council are elected by the members, plus the President (chosen by Council); and up to three additional trustees are co-opted by Council from time to time. In alphabetic order, the members of the 2025 Council were:

Simon Bottrell (President); Andy Eavis; Andy Farrant (Treasurer); John Gunn (Chairman & Conservation Officer); Russell Myers; Rostam Namaghi (co-opted; BCA Chairman); Jenny Potts (British Caving Library Coordinator); Mike Rogerson (co-opted); David Shearsmith (Secretary & Safeguarding Officer); Chloe Snowling (co-opted; Foreign Officer & Liaison with GPF); Emily Tilby (online seminars); Jo White; Les Williams (Hidden Earth) and Linda Wilson.

As Hon Chairman of BCRA I thank all members of Council for the work they do on behalf of the Association, and highlight the work of the two other Hon Officers, the Secretary (David Shearsmith) and Treasurer (Andy Farrant). For the health of the Association it is important that more BCRA members, and especially younger members, seek election to Council. However, it is not necessary to be a Council member to contribute to the Association, and BCRA are particularly grateful to David Cooke who is our IT Manager, to David Gibson our Webmaster, to Chris Howes and his team of Tratman Award judges and to Andi Smith and Adam Cooper for their work at the British Cave Science Centre. Also to the volunteers who work in the British Caving Library and serve on the CSTRF panel.

Since the foundation of BCRA, one of the main ways that the Association has fulfilled its charitable objects is through high quality scientific publications. These are discussed in detail later in the Review but in summary during 2025 the publications comprised three issues of Cave and Karst Science, the BCRA Review for 2024, and four issues of the CREG Journal. Ideas and suggestions for new publications are welcome. These could be on any topic, and we can offer assistance for anyone who is willing to put finger to keyboard and write something. Volunteers who are willing to write, edit and help produce print ready copy are always welcome.

In addition to formal publications, BCRA Council encourage exchange of information by social media. At the 2014 AGM it was suggested that the Association should have a Facebook page and a Twitter account, and such was the enthusiasm amongst younger members that both were set up within hours of the AGM. The Facebook page has been very successful and by the end of 2025 there were over 2400 followers with regular postings. In contrast the BCRA Twitter (now X) account has seen little activity. As with other forms of social media, the BCRA Facebook and X accounts will only be useful if members contribute to them.

As noted at the start of this report, the BCRA AGM was held at the University of Bristol on Saturday 12th October during the annual Cave Science Symposium which was organised by Professors David Richards and Fiona Whitaker together with Linda Wilson. This was a well-attended meeting with twelve oral presentations and five poster presentations that covered a wide variety of topics from the British Isles, Mexico, the Northern Sahara, and the Scandinavian Arctic. Abstracts of papers and posters are presented later in this Review.

In recent years it has proved difficult to persuade members to organise BCRA field excursions and that was largely the case in 2025 although no less than three were organised on the Sunday after the Cave Science Symposium. These comprised visits to Fishmonger's Swallet (led by Dave Hardwick), GB Cavern (led by Andy Farrant) and Pen Park Hole (led by Wayne Starsmore) and are reported later in this Review.

2026 has been a better year, with several successful trips already completed at the time of writing (August) and more planned for later in the year. Going forwards, BCRA would welcome offers from individuals or groups to run a field trip. This can be to your favourite cave or karst area, to showcase some research you have been doing, or to demonstrate research techniques or technologies. It would be great to have volunteers to lead field trips to areas not visited in recent years, such as Devon or North Wales, or on topics not well covered, including cave biology and archaeology.

More positively, monthly online seminars were held from January to June and from September to December 2025, and these are summarised later in this Review. Dr Emily Tilby is thanked for her amazing work finding some excellent speakers and hosting the seminars, which have been continued in 2026. Another large positive was yet another well-attended and very well-organised 'Hidden Earth' at Llangollen. BCRA are grateful to Les Williams and the Hidden

Earth team of volunteers who put a huge amount of effort into making the meeting a great success.

John Gunn

Secretary's Report

The BCRA had another busy year with a number of challenges and opportunities during the year. In my third year as secretary and with a fuller understanding of the work involved, it became obvious that we needed to increase the number of younger people on council, including in positions of responsibility in terms of sustainability and also engagement of members. Consequently, I decided also for personal reasons to give early notice to the chair in order to allow time to find a replacement secretary. At the AGM, we were incredibly grateful that Jo White volunteered to take on the role as an interim measure. Subsequently, some of the secretary's work has been distributed to other Council members. I was also responsible for Safeguarding, and Russell Myers volunteered to take over this role also.

Meetings are held throughout the year at regular intervals, and although meetings are private, council members can be contacted, as can the secretary, to discuss issues related to the members of the BCRA, and brought to the attention of Council. Meetings are usually held via Zoom, with an annual face-to-face meeting taking place at the British Caving Library. In July 2025, Council focused on planning for the next year. One of the key issues arising from the meeting was the need to have more field meetings. During the post-pandemic period they had stopped altogether and needed to be a focus for BCRA over the coming year. Organisers also needed to be reminded to focus on the key objectives of the BCRA, in terms of promoting cave science.

The Chair, John Gunn, provided significant support to me during my time in office, and gives an increasing amount of his time to promoting cave science and the BCRA, both in the UK, as well as across the world of caving. During 2025 he was appointed as an adjunct secretary of the International Speleological Council. The BCRA in conjunction with BCA also made a bid to host the 2029 International Speleological Conference. However, despite the best efforts of all parties, we did not get to host this event. Other key officers on Council, such as the Treasurer, also devote much time and effort ensuring that council complies with the rules of the Charity Commission, as well as promoting the work of BCRA. During 2025, I continued to ensure that Council had the appropriate policies and procedures in place to ensure that we were compliant with the Charity Commission, as well as continuing with the newsletter on a monthly basis to keep all members better informed through various outlets.

During 2025 our membership systems became fully embedded in the Just Go system, with Katie Eavis providing excellent support through the transition and ongoing maintenance, with regular reports to Council on membership. The system is now well established, and allows people seeking membership to easily access it through the Just Go System. It was also hoped that students would find it easier to become members, thus encouraging younger cavers to become more involved with cave science.

Our website and related IT issues needed significant support during the year, with David Cooke and David Gibson providing significant time and effort into moving over to a new server, as well as giving excellent advice to Council throughout the year. David Cooke was included on the Council's mailing list and attended meetings to give advice and support where needed. We do still however need additional support for this and continually ask in newsletters for more volunteers.

The BCRA holds significant events throughout the year, not least of all cave science seminars online. Emily Tilby has ensured that we have had seminars throughout the year, with a wide range of speakers and topics. Members requested that these seminars be recorded, and Council agreed in principle, as long as those concerned were happy for their seminar to be recorded and kept.

Hidden Earth is another significant event in the BCRA calendar, and it was phenomenally successful due to the exceptional endeavours of Les Williams and his team of volunteers. BCRA always has a stall at this event, where some Council members can assist in promoting BCRA's activities, as well as showcasing and selling all our publications.

The BCRA also has an annual Science Symposium, which is usually based at and hosted by a university. In 2025, Bristol University hosted an excellent two-day event, including field visits to local caves. This event always has a strong focus on cave science but also covers other aspects of caving, and is well worth a visit.

We have a significant number of publications throughout the year with the *Annual Review* showcasing our work. Thanks go to Phil Wolstenholme who enables the Review to be a high-quality publication. During the year, we publish *Cave and Karst Science*, which provides a rich resource of research related to cave science. The editors spend significant time putting the work together, and ensuring that the reports are of a high quality. During this year we were short of papers for publication; we would encourage anyone new to the BCRA, if they are unsure about authoring a paper and need support, to contact us.

The BCRA in conjunction with the BCA supports the British Caving Library, which provides a rich resource of materials relating to all aspects of caving, both in this country and across the world. The library would not exist if it was not for the volunteers who work there on a regular basis. Jenny Potts who leads the team also sits on BCRA Council and ensures that Council is kept up to date with the library, and any issues arising. During 2025, an issue arose regarding donations. The library can receive many duplicate copies when people donate, without contacting the library first.

During 2025 a Council member, Linda Wilson, helped resurrect the Archaeology BCRA Special Interest Group as it had been moribund for a while, and also located a person to continue its work. This is but one of the Special Interest groups linked to the BCRA including CREG (Cave and Radio Electronics Group) and others named on the website.

The British Cave Science Centre also provides opportunities for cave science research, with the Chair, John Gunn, supporting and promoting the work there. The BCRA also supports research work through its Cave Science and Technology Fund, with grants being awarded three times a year. It has however become clear that grants are not always followed up by report writing, and articles that could go into our publications. This became a key issue in 2025, with a focus for Council and the committee that allocates the funding to ensure that reports are published.

Finally, I would like to thank all Council members, particularly John Gunn, and also to David Gibson for his support with IT and other related BCRA issues. I will continue to support the BCRA in the future when needed.

Dave Shearsmith

IT and Website Report

This report covers IT and web site issues that are managed for BCRA by David Gibson.

Progress continues slowly on a number of IT projects, which were described in detail in last year's Review 2024.

Web Site

In 2025, BCRA's web server continued to be part of a cluster of virtual servers leased by BCA from Memset. BCRA does not pay for this web service, the cost of which is borne by BCA. During 2026, this virtual server will be decommissioned, as BCA gradually withdraws from providing web services to external groups.

BCRA's web services include not only our web site and the associated data storage, but our email facilities, the Mailman mailing lists, our staff operations manual and several bulletin boards. In 2025 our mailing lists were upgraded to make use of the Sympa package, replacing Mailman. There is a slight change of URL and they can now be found at **lists.bcra.org.uk**. The bulletin boards, including the BCRA News Forum **bcra.org.uk/forum** and the CREG forum at **bcra.org.uk/cregf** were disabled in late 2025 due to numerous hacking attempts. It is likely they will remain offline for a while, but we shall reconsider their operation in January 2027 when the old server is finally closed down.

Additionally, BCRA has been making use of two pay-as-you-go cloud servers at Memset, for storing archive material and backups, for which it is billed for bandwidth. In 2025, the data was migrated to BCRA's new server where it is served via a conventional web server rather than a cloud-based CDN.

David Gibson

Treasurer's Report

Council Report

The Council presents its annual report and accounts of the charity for the year ended 31st December 2025.

The objects of the British Cave Research Association (BCRA) are to promote the study of caves and associated phenomena wherever they may be situated, for the benefit of the public. BCRA is a registered charity (number 267828) and is administered, in accordance with its Constitution (last amended September 2020), by the members of the Council. The Association's correspondence address is The Old Methodist Chapel, Great Hucklow, Buxton, Derbyshire SK17 8RG.

Governance and Management

The Council consists of: The President, the Chairman, the Secretary, the Treasurer, up to seven representatives of the personal members and any further members (to a maximum of three) co-opted by the Council. All members of Council are Trustees of the charity.

All members of the Council, other than the President, are elected for a year term, but are eligible for re-election. Nominations for all positions on the Council, other than the President, must be proposed and seconded by voting members. In the event of a contested election, the election shall be determined by a postal ballot. The Council appoints the President to serve for a period of three years.

Council members serving during the year ended 31st December 2025 and up to the year-end were as follows:

- Simon Bottrell — President
- John Gunn — Chairman
- David Shearsmith — Secretary and Safeguarding Officer
- Andrew Farrant — Treasurer
- Andrew Eavis
- Russell Myers — BCA Chairman (co-opted)
- Jenny Potts — Library Co-ordinator
- Michael Rogerson — (co-opted)
- Chloe Snowling — (co-opted)
- Rostam Namaghi
- Emily Tilby — (co-opted)
- Jo White
- Les Williams
- Linda Wilson

Council meetings are held at least three times a year and all major decisions on the running of the Association and the furtherance of its objects are made at those meetings. In 2025, all Council meetings were held online via Zoom with the exception of one held in person at Glutton Bridge. Council is supported by two committees: the library committee, which organises the day-to-day running of the British Caving Library; and the Cave Science and Technology Research Fund panel, which considers the merits of grant applications for cave research projects and approves projects for funding.

In addition, the Association has a subsidiary charity and a charitable fund, which it oversees. The subsidiary charity is the BCRA Library and Heritage Fund, which was established to support the national caving library and BCRA cave archive. The charitable fund administered by the Association is the UK Cave Conservation and Emergency Fund (UKCCEF). It has its own committee, whose members are approved by BCRA's Council, which considers and approves applications for funding.

Finally, there are several Special Interest Groups (SIGs), which act in the name of the Association. The SIGs consist of people with a common interest in a specialised subject and, whilst supported by the Association, contribute to their own funds for their own needs.

A review of our achievements and performance

Financial Review
Membership of the Association in 2025 comprised 337 individual Members and 51 Group members (2024: 355 and 55 respectively), plus 75 Associate Members (2024: 76).

Gross income for the year was £30,174, a slight decrease from the previous year (£32,699), largely because there was no Gift Aid claim this year. Income from publication sales, gifts and donations and royalties all increased slightly.

Publication sales of the *Caves and Karst of the Yorkshire Dales* books were marginally down, although both have now recouped their printing costs. There was a much larger increase in sales of other BCRA publications. Many of the Cave Studies books are now old stock.

Membership income and royalties were up slightly compared to 2024. The Gower Book (published in 2023) saw a slight increase in sales, but sales remain slack. As in previous years, BCRA received a grant from the British Caving Association (BCA) towards the costs of running the library. In 2025, this amount was static at £12,000.

Direct charitable expenditure decreased very slightly from £31,695 in 2024 to £31,413 in 2025. The money spent on producing and distributing *Cave & Karst Science* and the *Review* was very similar to 2024. Contributions to the British Cave Science Centre remained static at £1250. Grant expenditure, mostly via the Cave Science and Technology Research Fund was down slightly. Expenditure on library purchases and expenses (including rent) was down slightly to £13,642 (£14,427 in 2024), although the rent remained static. This year a donation of £2000 was made to the Ghar Parau expeditions fund.

Reserves Policy
The Association needs reserves of funds to provide working capital for its ongoing activities, particularly the library, and to absorb the variability in its income. Therefore, the Trustees (members of Council) consider that it is prudent to keep in reserve a sum at least equivalent to a year's expenditure; reserves currently exceed this minimum.

Membership
Membership of the Association is only open to members of British Caving Association (BCA).

Progress on Objectives
The Association undertakes a number of initiatives in support of its objective of promoting the study of caves and associated phenomena for the benefit of the public. Progress on these initiatives is outlined below.

Cave Science and Technology Research Fund
BCRA supports cave science through the Cave Science and Technology Research Fund (CSTRF), which provides grants to individuals undertaking worthwhile cave research projects. Funding was initially provided through a £25,000 allocation in 2006 and the £20,000 Jack Meyers legacy received in 2009. In 2020, Council approved a further £25,000 from unrestricted funds to support the scheme for the next five years, and in 2025 a further £25,000 was allocated for a subsequent five-year period. Applications are assessed three times a year by a panel of BCRA members with expertise in cave geology, biology, technology, history and archaeology.

During 2025, grants were awarded to support a diverse range of projects, including research into microplastics in caves (P. Verney), radiocarbon dating of faunal remains from Hallowe'en Rift (V. Simmonds), and the upgrading of cave archaeology gazetteers on the University of Bristol Spelaeological Society website. A small number of previously awarded grants were written back after projects were either not undertaken or secured alternative funding.

The CSTRF continues to provide successful and ongoing support for cave science, benefiting undergraduate and postgraduate students, academic researchers and amateur scientists. In 2025, grants totalling £3,025 (2024: £6,100), including £2,545 through the CSTRF, were awarded (see Note 7 to the accounts). By December 2025, the scheme had supported 89 projects.

The British Caving Library and Archive
A comprehensive library is fundamental to cave research. The former BCRA Library at Matlock has been combined with other collections to form the British Caving Library, now housed in rented premises at Glutton Bridge near Buxton, providing public access to an extensive collection of caving literature from around the world.

The library is managed by Mary Wilde, the BCA-employed librarian, with support from Jenny Potts, the volunteer Library Coordinator and BCRA Council member. Additional assistance with library operations and cataloguing is provided by Karen Lydon and Katie Eavis, both employed by the BCA.

The online catalogue is available at **http://caving-library.org.uk**, which also hosts the BCRA Audio Archive of interviews with notable cavers, together with digitised historical publications and photographs donated to the library. Martin Laverty maintains the online catalogue, John Gardner manages the BCRA Online Archives, and Chris Hunter curates the Audio Archive. A team of volunteers also assists with cataloguing surveys, maps and other collections.

The British Caving Archive, comprising unique unpublished records documenting cave exploration from the 1920s to the 1950s, has been stored in climate-controlled vaults at the British Geological Survey, Keyworth, since 2009. Thanks to the efforts of numerous volunteers, the entire collection has now been digitised and is accessible through the library website.

The British Cave Science Centre.
The British Cave Monitoring Centre (BCMC) was established by the BCRA at Poole's Cavern, Buxton, in 2018 in partnership with the Buxton Civic Association. Renamed the British Cave Science Centre in 2020, it supports long-term cave science through continuous environmental monitoring.

A network of sensors records parameters including temperature, humidity, airflow, barometric pressure, drip rates, radon and CO_2, with data automatically transmitted from the cave and made publicly available online. The facility provides a valuable resource for students and researchers investigating cave climate and environmental processes, with support from Gemini Data Loggers through the provision of monitoring equipment, including radio-linked temperature loggers.

Publications
Three issues of *Cave and Karst Science* were published during 2025, and the journal remains one of the principal ways in which the Association fulfils its objectives. It continues to provide high-quality scientific papers for the speleological community while serving as an important forum for the exchange of ideas and information between professional and amateur cave researchers. The Association is particularly grateful to the editorial team, especially John

Gunn and David Lowe, for the considerable effort involved in producing the journal.

The trend towards digital publication continued, with increasing numbers of members choosing online access rather than printed copies. In 2025, the mailing list for *Cave and Karst Science* comprised 154 individual members (2024: 234), 25 group members (2024: 34) and 51 associate members (2024: 52), giving a total print circulation of 231 copies (2024: 320).

The tenth issue of the *BCRA Annual Review*, covering activities in 2024, was published in 2025. The Review is available as a free PDF download, with printed copies available through the BCRA online bookshop. During the year, 24 member clubs (2024: 34) received a complimentary copy, together with 42 international caving organisations (2024: 42) participating in the Journal Exchange scheme. Including other miscellaneous distributions, a total of 73 printed copies were circulated. The *Annual Review* includes reports from BCRA Officers, details of BCRA publications, reports from Special Interest Groups, information on grants and awards, summaries of Cave Science Symposia and Field Meetings, and the minutes of the 2024 BCRA Annual General Meeting.

Four issues of *The CREG Journal* (Nos. 129-132) were also published during 2025, produced by Mike Bedford, Rob Gill, Luc Le Blanc and Chris Ross. No new books were issued during the year, although proposals and ideas for future publications are always welcomed.

Cave Conservation

The UKCCEF is a charitable fund administered by the British Cave Research Association as a constituent member of the BCA. The objectives of the Fund are to support, by loans or grants, projects that further the conservation of caves and cave features, including historic mines and other places of speleological interest within the United Kingdom.

Meetings

The 36th BCRA Cave Science Symposium was held at the University of Bristol's School of Geographical Sciences on 11 October 2025, organised by Professors David Richards and Fiona Whitaker, with assistance from Steve Hobbs and Linda Wilson. The programme featured nine oral presentations and a poster session covering a wide range of cave science topics. Symposium abstracts were published in *Cave and Karst Science* (Vol. 52, No. 3, pp. 131-138, 2025).

The meeting opened with a session on palaeoclimate reconstruction from speleothems. Tim Lawson discussed the application of high-resolution U-Th dating techniques to speleothems from Assynt, northwest Scotland. Stacey Carolin presented research on annually laminated stalagmites from northwest Yucatán, Mexico, demonstrating how they can be used to date and quantify rainy-season droughts and assess their impacts on Maya civilisation. Samuel Hollowood examined stalagmite evidence for the role of tropical plumes in driving mid-Holocene rainfall across the northwestern Sahara.

The second session focused on cave fauna, climate and conservation. Danielle Schreve presented findings from the archaeological excavations at Gully Cave, Somerset, illustrating how cave deposits can provide valuable records of past climate change and biodiversity while informing modern conservation and ecosystem restoration. Sam Walker described a 75,000-year-old Arctic cave deposit from Scandinavia that preserves a remarkable record of past faunal diversity and palaeoenvironmental conditions in northern Europe. Alicia Sanz-Royo presented a new biochronology and taphonomic assessment of mammalian remains from Reindeer Cave, Assynt, providing fresh insights into ecosystem dynamics during the Late Glacial and early Holocene in northwest Scotland.

The third session explored karst hydrology and hydrochemistry. Mike Rogerson reported on research into hyperalkaline speleothems at Poole's Cavern, showing how cave monitoring is helping to improve understanding of groundwater contamination from historic lime and industrial waste sites and the gradual weathering of centuries-old lime waste. John Gunn described the hydrological impacts of Storm Babet on the Castleton karst system, where rapid groundwater rises triggered flow switching between underground conduits and activated new drainage pathways, highlighting the increasing complexity of flood prediction in karst environments. Phil Murphy presented a re-evaluation of the morphology, hydrology and geological setting of Stump Cross Caverns, suggesting that hypogenic karst processes may have been important in the cave's development.

The final session covered a range of cave science topics. Lee Knight reported on baseline surveys of cave invertebrates in Ogof Ffynnon Ddu and Ogof Draenen, recording 84 taxa in each cave and increasing the known totals to 123 and 124 taxa respectively. The surveys established an important ecological baseline and identified key species and communities for future conservation monitoring. Andy Farrant reviewed nearly five decades of cave research in Gunung Mulu National Park, Sarawak, since the Royal Geographical Society's first expedition in 1978. The symposium concluded with a presentation by David Hardwick and Adelle Bricking on recent discoveries from Fishmonger's Swallet near Bristol, a site interpreted as a late Iron Age ossuary.

Five posters were also presented. Femi Ilesanmi outlined speleothem-based palaeoclimate reconstructions from West and Central African karst regions arising from the 2023-2024 National Geographic Society Speleological Expeditions. Mike Rogerson presented research on the spatio-temporal dynamics of speleothem growth and glaciation in the British Isles, while Lee Knight showcased current investigations into groundwater habitats in Scotland and recent records of several stygobitic crustacean species. Tim Atkinson contributed two posters: one detailing a speleothem-derived palaeoclimate record for the western Mediterranean from Gibraltar, and a second examining north-south oxygen isotope gradients in precipitation between Greenland and Gibraltar during the Last Glacial.

The symposium was followed by a series of field trips on Sunday 12th October. Three contrasting trips were arranged. Andy Farrant led a trip down GB Cavern to look at the speleogenesis and evolution of the system, whilst Dave Hardwick took a group to look at the Late Iron age excavations at Fishmonger's Swallet. Wayne Starsmore took a trip to Pen Park Hole, one of the best examples of a hypogenic cave in the UK.

The monthly online webinars were continued in 2025. A diverse range of speakers delivered presentations on:

Microbial Nitrogen Cycling and Cave Passage Modification in Mulu National Park

J. Max Koether (University of Alabama) examined how

microbial activity associated with bat and bird guano may drive cave enlargement through nitric acid production in the caves of Gunung Mulu, Sarawak.

Sulfuric Acid Speleogenesis: How Can We Recognize It and What Can It Teach Us?
Jo De Waele (University of Bologna) reviewed the occurrence, morphology and significance of sulfuric acid caves worldwide and their role in understanding hypogenic cave development.

The Underground Mistakes of My Career: Lessons Learned from Maaras Cave, Greece
Christos Pennos (Aristotle University of Thessaloniki) discussed hydrogeological and geomorphological investigations of the Maaras Cave system, and the lessons learnt from studying this complex karst environment.

Palaeontological Perspectives on Caving in Thailand.
Spyridoula Pappa (Natural History Museum) presented palaeontological research from caves in Thailand, focusing on fossil deer remains and their implications for reconstructing Pleistocene environments and climate change.

Limestone, Dirt and Iron: Using Cave Magnets to Understand the Past.
Beth Fox (University of Huddersfield) demonstrated how magnetic minerals preserved in cave deposits can be used to reconstruct past flooding, environmental conditions and climate change.

Expedition Medicine: The Art of Applying Science to Cavers
Rostam Namaghi explored the medical and scientific challenges associated with cave expeditions and remote fieldwork.

Forgotten Voices Speak: Recording Historic Graffiti in Kents Cavern, Torquay
Linda Wilson described work documenting and researching historic graffiti and inscriptions as part of the conservation and interpretation of Kents Cavern.

Cave Exploration, Guano, and Prehistory in Malaya and Borneo, 1870s-1960s
Katherine Enright (University of Cambridge) examined the history of cave exploration, archaeology and guano extraction in Southeast Asia and their influence on understanding regional prehistory.

Scientific Investigations in Greenland's Caves: Unlocking High Arctic Climate Histories
Gina Moseley (University of Innsbruck) showed how cave deposits from northern Greenland provide unique records of Arctic climate, permafrost dynamics and environmental change during past warm periods.

The Symonds Yat Cave System, Forest of Dean: Initial Scientific Findings in the Recent Redhouse Lane Swallet Discoveries
Mark Tringham presented the first geological and speleogenetic results from newly discovered sections of the Symonds Yat Cave System in the Forest of Dean.

Emily Tilby has done an excellent job in organising the webinars. Thanks also to the speakers for some great talks. The online events also included the regular BCRA Council Meetings. These worked well, with the additional benefit of saving travel costs.

Hidden Earth, the UK's National Caving Conference was held at the Royal International Pavilion, Llangollen in North Wales over the weekend of 26-28th September 2025. This was the second conference to be held at this venue, and it was a great success, so much so that the venue was booked again for 2026.

Other Association News

Special Interest Groups
The work of the Special Interest Groups (SIGs) continues to enhance the portfolio of BCRA. The Cave Survey Group (CSG), the Cave Radio and Electronics Group (CREG) and the Explosives User Group (EUG), are active to varying degrees, producing informative publications and hosting field meetings such as digital cave surveying courses. The Cave Biology Group is currently dormant. The Cave Archaeology Group has been revived and run some successful field meetings. CREG held a successful field meeting in the Yorkshire Dales over the weekend of 18–19 October 2025.

British Caving Association
BCRA is a constituent body of the BCA whilst remaining a separate legal entity, concentrating its efforts on supporting cave science. It does this by running meetings, channelling grant funding, maintaining the British Caving Library and facilitating publication through its journal, Cave and Karst Science, and continuing with its series of occasional publications, including the successful Cave Studies series.

Some Council members of BCRA are also council members of BCA and there is close cooperation between the two organisations. Accordingly, under the terms of Financial Reporting Standard 102, transactions between the two associations are classified as being between "related parties". Membership subscriptions for the Association are collected by BCA. In addition, BCA has collected publication sales income and incurred costs on behalf of BCRA. These transactions are detailed in Note 11 to the accounts.

Statement of Trustees Responsibilities

The Trustees are responsible for preparing a trustees' annual report and accounts (financial statements) in accordance with applicable law and United Kingdom Accounting Standards (UK Generally Accepted Accounting Practice), including the applicable Charities SORP.

The Trustees are responsible for keeping proper accounting records that disclose with reasonable accuracy at any time the financial position of the charity, and to enable them to ensure that the financial statements comply with the Charities Act 2011 and the applicable Charities (Accounts and Reports) Regulations. They are also responsible for safeguarding the assets of the charity and taking reasonable steps for the prevention and detection of fraud and other irregularities.

The trustees have complied with the duty in the Charities Act 2011 to have due regard to the public benefit guidance published by the Charity Commission.

Approved by the Trustees on the 16th of September 2026 and signed on their behalf by:

John Gunn
BCRA Chairman

Independent Examiner's Report

To the Trustees of the BCRA for the year ended 31st December 2025.

I report on the accounts of the BCRA for the year ended 31 December 2025, which are set out on pages 9 to 12.

Respective responsibilities of trustees and examiner
The charity's trustees are responsible for the preparation of the accounts. The trustees consider that an audit is not required for this year under section 144(2) of the Charities Act 2011 (the 2011 Act) and that an independent examination is needed.

It is my responsibility to:

- examine the accounts under section 145 of the 2011 Act;
- follow procedures laid down in the general Directions given by the Charity Commission under section 145(5) (b) of the 2011 Act; and
- to state whether particular matters have come to my attention.

Basis of independent examiner's report
My examination was carried out in accordance with the general Directions given by the Charity Commission. An examination includes a review of the accounting records kept by the charity and a comparison of the accounts presented with those records. It also includes consideration of any unusual items or disclosures in the accounts and seeking explanations from you as trustees concerning any such matters. The procedures undertaken do not provide all the evidence that would be required in an audit and consequently no opinion is given as to whether the accounts present a 'true and fair view' and the report is limited to those matters set out in the statement below.

Independent examiner's statement
In connection with my examination, no matter has come to my attention:
(1) which gives me reasonable cause to believe that in any material respect the requirements

- to keep accounting records in accordance with Section 130 of the 2011 Act, and
- to prepare accounts which accord with the accounting records and to comply with the accounting requirements of the 2011 Act,

have not been met; or

(2) to which, in my opinion, attention should be drawn in order to enable a proper understanding of the accounts to be reached.

Name: James Gamgee
Address:10 High Street, North Scarle, LN6 9EP
Date: 16/09/2026.

Notes To The Accounts

For the year ended 31st December 2025

1) Accounting Policies

Basis of Preparation
The accounts (financial statements) have been prepared under the historical cost convention. They have been prepared in accordance with the Statement of Recommended Practice: Accounting and Reporting by Charities (the 'Charities SORP') (second edition issued January 2019) and the Financial Reporting Standard applicable in the UK and Republic of Ireland (FRS 102) Section 1A Small Entities (issued September 2015) and the Charities Act 2011. No restatement of comparative items prepared under previous Generally Accepted Accounting Practice has been required. The Association constitutes a public benefit organisation as defined by FRS 102.

The Trustees consider that there are no material uncertainties about the Association's ability to continue as a going concern.

There are several Special Interest Groups (SIGs), which act in the name of the Association. The SIGs consist of members of the Association with a common interest in a specialised subject and, whilst supported by the Association, contribute to their own funds for their own needs. The accounts of the Special Interest Groups (SIGs) have not been incorporated into these accounts on the basis of materiality.

The United Kingdom Cave Conservation Emergency Fund (UKCCEF) is a fund administered by the Association as a constituent member of the British Caving Association (BCA), which prepares separate accounts. The UKCCEF accounts, which are drawn up to 31st December, are included in these financial statements.

The BCRA Library and Heritage Fund was a subsidiary charity (Registered Charity 267828/2) until April 2015. The Trustees concluded that it was no longer necessary to be constituted as a separate charity; its functions and responsibilities have been transferred to BCRA. The charity does not prepare separate accounts but is included in these accounts as a restricted fund.

Membership Subscriptions
Subscriptions are stated on a receipts basis. No adjustment is made to account for late receipt of subscriptions, as in the opinion of the Council it is prudent not to assume renewal of membership in the event of a delay in receipt of the subscription.

Legacies
Legacies are credited as income in the year in which they are receivable.

Grants
Grants are accounted for when paid or received. CSTRF grants are accounted for when offered, i.e. when the liability is incurred.

Annual Conference and Field Meetings
Income receivable from Field Meetings and the Association's Annual Conference is stated in the Statement of Financial Activities net of expenditure. While these meetings are an essential part of the Association's activities, the intention is that admission fees should cover costs. Hence, in the opinion of Council, it is appropriate to show net income or expenditure from these activities.

Fixed Assets
Fixed Assets, which are all tangible, are stated at cost less a charge for depreciation. There are no assets held under any finance lease or hire purchase agreement. Depreciation

ACCOUNTS for the year ended 31st December 2025

Statement of financial activities for the year ended 31st December 2025

	Year to 31st December 2025 Unrestricted Funds	Year to 31st December 2025 Restricted funds	Year to 31st December 2025 Total	Year to 31st December 2024 Total
INCOMING RESOURCES	£	£	£	£
Membership Subscriptions	8,250	-	8,250	8,193
Gifts & Donations	475	-	475	300
Gift Aid	-	-	-	2,608
Grants Received	12,000	-	12,000	12,000
Royalties Received	114	-	114	74
Caves and Karst of the Yorkshire Dales Vol. 1	400	-	400	291
Caves and Karst of the Yorkshire Dales Vol. 2	330	-	330	471
Publication Sales	2,393	-	2,393	1,846
Field Meets & Conference Surpluses – see Note 8	5,039	-	5,039	5,266
Miscellaneous	39	-	39	103
Income from Investments	-	-	0	-
Bank Interest Received	954	180	1,134	1,548
TOTAL INCOMING RESOURCES	**29,994**	**180**	**30,174**	**32,700**
RESOURCES EXPENDED				
Direct Charitable Expenditure				
Cost of Publications – see Note 5	9,055	-	9,055	7,595
Distribution of Publications	285	-	285	1,776
Cave Studies		-	-	21
Annual Review	1,537	-	1,537	1,625
Dales, Gower & other books	619	-	619	102
Grant Expenditure – see Note 7	3,025		3,025	4,899
British Cave Science Centre	1,250	-	1,250	1,250
Donation to Ghar Parau	2,000		2,000	
Library Purchases and Expenses	13,642	-	13,642	14,427
Total Direct Charitable Expenditure	**31,413**	**-**	**31,413**	**31,695**
Other Expenditure				
Bank Charges	751	-	751	185
Administration Expenses – Note 6	518	-	518	207
Independent Examination Fees	500	-	500	450
Miscellaneous Expenses	288	-	288	130
Depreciation of Fixed Assets	88	-	88	96
Total Other Expenditure	2,145	-	2,145	1,068
TOTAL RESOURCES EXPENDED	**33,558**	**-**	**33,558**	**32,763**
NET INCOMING/(OUTGOING) RESOURCES FOR THE PERIOD	(3,564)	180	(3,384)	(63)
BALANCES BROUGHT FORWARD AT 31 DECEMBER 2024	119,007	23,804	142,811	142,874
Transfers between funds				0
BALANCES CARRIED FORWARD AT 31 DECEMBER 2025	115,443	23,984	139,427	142,811

ACCOUNTS for the year ended 31st December 2025

Statement of financial position for the year ended 31st December 2025

	31st December 2025	31st December 2024
	£	£
FIXED ASSETS – see Note 9	4,274	4,827
CURRENT ASSETS		
Other Debtors – Note 11	3,262	5,827
Prepayments and Accrued Income	0	1,523
Special Interest Groups	0	0
Bank Deposit Accounts	0	100,053
Bank Current Accounts	147,391	46,005
Cash in Hand	0	0
	150,653	153,408
Less: CURRENT LIABILITIES		
Special Interest Groups	6,765	3,192
Accruals and Deferred Income	8,735	12,232
Other Creditors	0	0
	15,500	15,424
NET CURRENT ASSETS	135,153	137,984
NET ASSETS	**139,427**	**142,811**
RESTRICTED FUNDS – Note 12		
BCRA Research Fund (Restricted)	0	0
UK Cave Conservation Emergency Fund	20,679	20,524
Library and Heritage Fund	3,305	3,280
	23,984	23,804
UNRESTRICTED FUNDS		
BCRA Research Fund (Unrestricted)	25,191	2,736
Hidden Earth Conference Fund (Unrestricted)	27,764	25,000
BCRA General Fund	62,488	91,271
	115,443	119,007
	139,427	**142,811**

The notes on page 9 form an integral part of these accounts. These accounts were approved by the Trustees and signed on their behalf on 16th September 2026. John Gunn, Chairman.

is provided at rates calculated to write off the cost of each individual asset, less its estimated residual value, over its expected useful life, on the following basis:

Computer Equipment	20% straight line
Other Equipment	20% straight line

Investments
These are stated at cost.

Stocks
The Association holds a stock of publications for resale. The stock is valued at the lower of cost or net realisable value. The valuation does not include any proportion of fixed or variable overheads.

Foreign Currencies
There are no assets or liabilities in foreign currencies as of 31st December 2025 (2024 nil). Transactions in foreign currencies are translated into Sterling at the rate of exchange ruling on the date of each individual transaction. Exchange differences are considered on an arising basis.

2) Special Interest Groups
There are several Special Interest Groups, which act in the name of the Association. These are self-financing groups, which have undertaken to present their own accounts. The turnover of the Special Interest Groups does not exceed £5,000 in total per annum.

3) UKCCEF
The UKCCEF is a fund administered by the Association as a constituent body of the BCA. The objective of the Fund is to support, by loan or grant, projects that further the conservation of caves. The accounts of the Fund, which are drawn up to 31st December, are incorporated within these financial statements.

4) Subsidiary Charities
The BCRA Library and Heritage Fund was a subsidiary charity (Registered Charity 267828/2) until April 2015. Until that date, it was run by the Council of the Association, who administered the national cave library and cave heritage collection. The Council continues to run the Fund for this purpose and it is included in these accounts as a restricted fund.

5) Publication Costs
For *Cave & Karst Science*:
Year to 31 Dec 2025, 3 issues, £7,594.94
(includes accruals from 2024)
(Year to 31 Dec 2024, 3 issues, total £11,558.77)

The *BCRA Annual Review* for 2025 cost a total of £1,625.09 (£1,404.00 in 2024).

6) Administration Expenses
Administration expenses are expenses incurred by the Trustees and other officers of the Association, either in attending Council meetings, or in fulfilling their functional responsibilities within the Association.

Table 1 – Grant Expenditure

	Year to 31st December 2025		Year to 31st December 2024
	Unrestricted Funds	Research Fund (Restricted)	Total
	£	£	£
Tratman Award	60	-	150
Alex Pitcher Award	-	-	-
BCA Expedition Grants	-	-	-
Other grants and awards	420		317
Hidden Earth Awards	-	-	100
CSTRF (Designated Fund) grants:			
K Xie - Late Holocene environmental change	-	-	1,500
VJ Simmons - Human remains, Somerset	-	-	1,000
J Cooper - Safety Structure, Harry Thomas Cave	-	-	500
C Snowling - Stalagmite Sampling, Eastern Crete	-	-	1,600
R Dinnis - Radiocarbon dating, Wogan Cave	-	-	1,500
VJ Simmons - Halloween	400	-	-
University of Bristol Speleological Society (G. Mullan)	1,500	-	-
P Verney Microplastics	1,845	-	-
Prior year grants returned/written back	-1,200	-	-2,768
Total CSTRF Grants	2,545		3,332
Total Grants made	**3,025**	**0**	**3,899**

Table 2 – Fixed Assets

	Computer Equipment	Other Equipment	Total
	£	£	£
At Cost			
As at 01/01/25	5,477	11,128	16,605
Additions during the Period	805	325	1,130
Disposals during the Period	-	-	0
As at 31/12/25	6,282	11,453	17,735
Depreciation			
As at 01/01/25	5,477	6,301	11,778
Charged for the Period *	197	1,486	1,683
Eliminated on disposals during the Period	-	-	0
As at 31/12/25	5,674	7,787	13,461
Net Written Down Value			
As at 31/12/24	0	4,827	4,827
As at 31/12/25	608	3,666	4,274

Depreciation for the year includes £1,595 relating to Hidden Earth conference assets, which has been deducted from the HE conference surplus for the year (Note 8) and £88 for other assets, as shown in the Income and Expenditure account

Table 3 – Restricted Funds: Movement and Analysis of Net Assets

	Unrestricted Funds:	Restricted Funds:		
		BCRA Research Fund	UKCCEF	BCRA Library and Heritage Fund
	£	£	£	£
Opening Balance	119,007	-	20,524	3,280
Income for the Period	29,994	-	155	25
Expenditure for the Period	(33,558)	-	-	-
Transfer between funds		-	-	-
Closing Balance	115,443	0	20,679	3,305
Held as:				
Fixed Assets	4,274	-	-	-
Investments	-	-	-	-
Current Assets	126,669	-	20,679	3,305
Current Liabilities	(15,424)	-	-	-
	115,443	0	20,679	3,305

The Trustees have not been remunerated during the period. No Trustees were reimbursed for expenses related to the Association's business in 2025 (2024, nil). The payments related to attendance at Council meetings and the AGM in 2025 were £47.00 (2024: £187.90), the balance being the cost of undertaking functional responsibilities within the Association.

Travel costs in 2025 were significantly less than prior to 2020, due to the move to online Council meetings via Zoom, due to the Covid-19 pandemic. Many trustees do not claim travel expenses.

7) Award and Grant Expenditure

In addition to grants made from the Association's research fund, we also make small award payments and some grant expenditure from general funds. These are all shown in Table 1, previous page. The Hidden Earth annual conference normally makes grant payments from its accumulated annual surpluses.

8) Annual Conference awards

The 2025 Annual Conference "Hidden Earth" was held in Llangollen. The list of award winners is given at **https://bcra.org.uk/awards.html**

9) Fixed Assets

See Table 2, previous page.

10) Investments

Investments belonging to the Ghar Parau Foundation were transferred on the 30th September 2019.

11) Other Debtors (Related Party Transactions)

Included in Other Debtors are amounts due from a related party, the BCA. Membership subscriptions for the Association are largely collected by BCA. In addition, BCA has collected publication sales, and incurred publication and other costs on behalf of the Association.

The amount due from BCA on 31st December 2025 was £5749.38, including £2846.77 from 2024, leaving a balance for the year of £2902.61 (31st December 2024 was £2846.77).

12) Restricted Funds

The Association is responsible for some restricted funds and subsidiary charities.

The BCRA Research Fund

This fund was established to promote research into all aspects of speleology in Britain and abroad. From the fund's original donation part of the monies held were restricted for the purpose of the fund. Additional monies have been transferred from the Association, which are unrestricted in nature. The two constituent parts of the fund are shown on the Statement of Financial Position as of 31st December each year.

The United Kingdom Cave Conservation Emergency Fund (UKCCEF)

The UKCCEF is a fund administered by the Association as a constituent body of the BCA. The objective of the Fund is to support, by loan or grant, projects that further the conservation of caves. The accounts of the Fund, which are drawn up to 31st December, are incorporated within these financial statements.

The BCRA Library and Heritage Fund

The BCRA Library and Heritage Fund was a subsidiary charity (Registered Charity 267828/2) until April 2015. Until that date, it was run by the Council of the Association who administered the national cave library and cave heritage collection. The Council continues to run the Fund for this purpose as a restricted fund within the Association. The charity did not prepare separate accounts, and it is included in these accounts as a restricted fund.

The movement and analysis of the net assets by fund is shown in Table 3, previous page.

13) Future Capital Expenditure and Future Commitments

No capital expenditure was contracted for as of 31st December 2025 (31st December 2024, nil) and no capital expenditure remained authorised but not contracted for as of 31st December 2025 (31st December 2024, nil).

The Cave Science and Technology Research Initiative, announced at the Annual Conference in 2005, aimed to provide £25,000 over five years towards cave research from the Balcombe legacy of 2001. The Jack Meyers legacy of £20,000 was added to this programme in 2009. In 2020, the Council approved the allocation of a further £25,000 from unrestricted funds to cover the next five-year period. The first grants were made in June 2006. As of 31st December 2025, grants totalling £6,100 (31st December 2024 £4,924) had been made under the Initiative for the year.

This year some previous years grants (£2,768) were returned as they had not been used or claimed, leaving a balance of £3,332. A total of over £80,000 has been awarded since the inception of the CSTRF grant scheme, of which over £75,000 has been paid. The figure includes paid and accrued grants still to be claimed, less previous grants awarded but not claimed or no longer required. Other grants and awards awarded this year totalled £567.

14) Joint Venture - Poole's Cavern

The BCRA has contributed a further £1,250 to continue the British Cave Monitoring Centre (now renamed the British Cave Science Centre) at Poole's Cavern in Buxton, with an additional £1,250 of co-funding from Buxton Civic Association.

British Caving Library Report

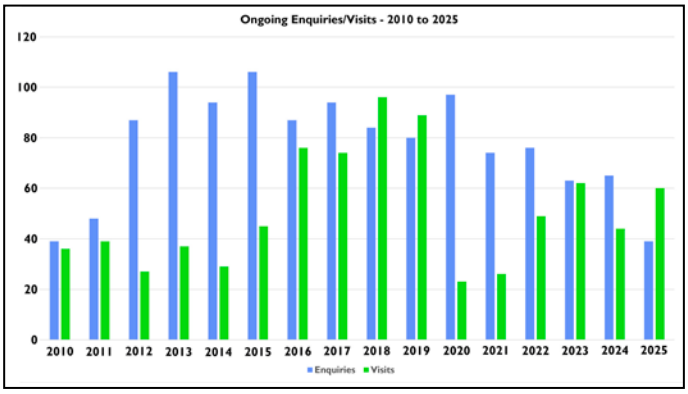
The British Caving Library (BCL) is a national research and reference library based at Glutton Bridge, near Buxton in the Peak District, owned and managed by BCRA and staffed part-time by a paid Librarian and Library Assistants. It comprises published and archived material collected by BCRA and its predecessor organisations (with a minority of the items on long-term loan from clubs and individuals), plus new and up-to-date publications bought or donated and an increasing amount of donated archive material. Since 2009 it has been funded by BCA, and its services are available to all British cavers as well as to foreign cavers, and non-cavers. It maintains links with many British caving clubs, who send copies of their publications as they are issued. The exchange of BCRA's publication *Cave and Karst Science* for foreign publications ensures a constant supply of up-to-date foreign periodicals, surveys and books.

Progress during the Year, Staff and Volunteers

The graphs of enquiries dealt with and visitors during the years from 2010 to 2025 show what happened during the various Covid lockdown periods. The number of visitors continues to climb, although it has not yet reached the level it did before Covid. However, the number of enquiries received during 2025 has dropped compared to the number of visits received, possibly because some visitors are now conducting their own searches onsite with the aid of Library staff or are able to make use of the increasing amount of information on club websites.

Librarian Mary Wilde concentrates on cataloguing books, both new volumes incoming and older ones donated recently, and is still working through the thousands of items received from the late Don Mellor in November 2024, including the very important archive material contained. As we work through and catalogue the piles of donations, it is becoming easier to spot the duplicates, and Mary also, where necessary, checks on the monetary value of items. Mary also deals with foreign periodicals, is our IT expert and also hosts the Library Facebook page, which now has well over 2000 followers.

Jenny Potts, a member of BCRA Council, is the volunteer BCRA Library Co-Ordinator, effectively managing BCL on behalf of BCRA and also, to an extent, BCA. She also works with the staff at BCL, concentrating on UK periodicals and archive material, as well as reporting to BCRA and BCA. She also masterminds the BCL stand at Hidden Earth, aided by other Library staff and volunteers.



Katie Eavis has been able to spend more time working for the Library during 2025, as well as at her post as BCA Membership Secretary, now that the setting-up period with JustGo has eased. Her input has been invaluable in terms of liaison with BCA member clubs and individuals, to promote the distribution onwards of duplicates unwanted by us, but of value to others. She still has periods of the year when Membership work is extra busy but now has more time to spend working the Library.

Karen Lydon has continued to work for the Library during 2025, mostly one day every other week. She is steadily working through our huge collection of modern surveys, maps, aerial photos and graphics to create a proper catalogue of these. Several thousand surveys, etc. have already been catalogued and duplicates identified, though yet more continue to arrive as part of donated collections. Karen has also begun on cataloguing some of the archive material received mixed in with books and periodicals received as donations.

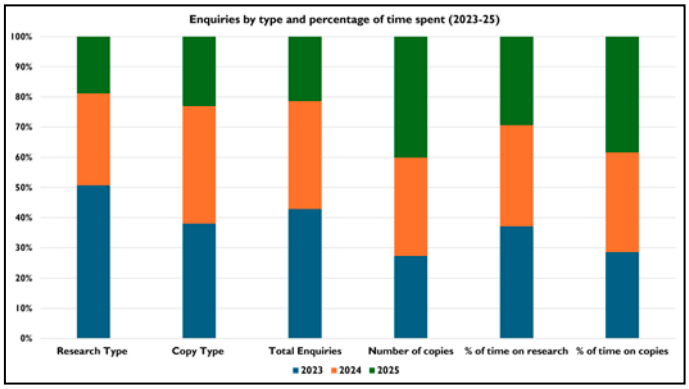
Donations from deceased cavers have continued to produce a large number of interesting books and periodicals, some of which contain information on caving before and during WW II. Those which are new to us are added to our collection; the increasing number of duplicate copies of items we already have are, where possible, passed on to other cavers and caving libraries. We now have links all the BCA member clubs which have libraries, and these are now regularly sent lists of material we have available to pass on.

Katie and Karen took the lead in listing duplicated books and together boxed and sorted them, ready to take to Hidden Earth in 2025, where the Library stand with its "Lucky Dip" was able to pass on many duplicate journals, books and surveys to good homes with club libraries and individual caver collectors. Thanks are also due to Russell Myers, for his help in transporting the material and display items to Llangollen in 2025 - it took 2 large vehicles to get everything there. Altogether during the year, we have collected nearly £524 in donations for duplicates, including £170 in cash at Hidden Earth. Karen's summary list of the contents of over 300 boxes of archive material, some dating back prior to the formation of BCRA, has meant more of these items are now accessible for research. Cataloguing all these items in detail remains a huge task and will depend upon suitable volunteers being willing to take on sections of the project.

During the year, our two local volunteers have continued to work through the extensive collection of surveys and maps dating from the days of Eli Simpson and BSA, plus some other items collected during the early days of the BCRA Library. An increasing number of historically important surveys, the work of pioneer cavers in the 1930s, have been identified, and will need eventually to be integrated into the general survey catalogue. We are now almost finished with the ex-BSA material, but more items from this era continue to appear, mixed in with donations.

Our two long-term volunteers have continued their invaluable work for the Library; both having begun when BCL was set up originally 2008.

Martin Laverty in South Wales continues to provide the Online Bibliography/Catalogue, using the books and journals catalogue spreadsheets created in the Library at Glutton Bridge, and emailed on to him. This is an invaluable resource for those seeking information on what is held at BCL, as well as being a general bibliography. It has proved particularly valuable in answering quick queries at events such as Hidden Earth, where we have a Library stand. Donations brought direct to the BCL stand at Hidden Earth have been dealt with on the spot using laptop and Wi-Fi, allowing us to identify which can be put on the stand straight away for cavers to take, and which we need to keep for the Library.



John Gardner in Yorkshire, masterminds the BCRA Online Archives collection. As more archive material is being donated to the Library, much of it in the form of photographs, the BCRA Online Archives continues to grow, and there are new collections added to the archives every year; these include press cuttings, notebooks, correspondence and other documents, as well as photos. This is an incredible resource and has now been enhanced by having much of the BSA/Simpson collection online, and accessible to cavers for research.

John was also responsible for the original Audio Archive, with a collection of interviews with cavers and people involved in caving, based largely on interviews carried out by Sid Perou. This has not been added to for some time now, so the search is on for a suitable interviewer who is willing to carry on this work, and also for someone who is sufficiently well-versed in IT to be able to deal with the uploading of material to the website, as well as general IT maintenance.

Chris Hunter has acted as BCL's volunteer webmaster for several years now but is looking to step down in favour of someone with more time to deal with the site. We are very grateful for his contribution to our work in maintaining the Library web site at **https://caving-library.org.uk/**.

With the help of Russell Myers, we have worked through various fire safety issues and are now considering using some of the money donated to the Library for 'Archive' work to buy a fire-proof cupboard to store some of our valuable and unique items. PAT testing has been completed and has been paid for by BCA on the basis that BCA staff work in the Library.

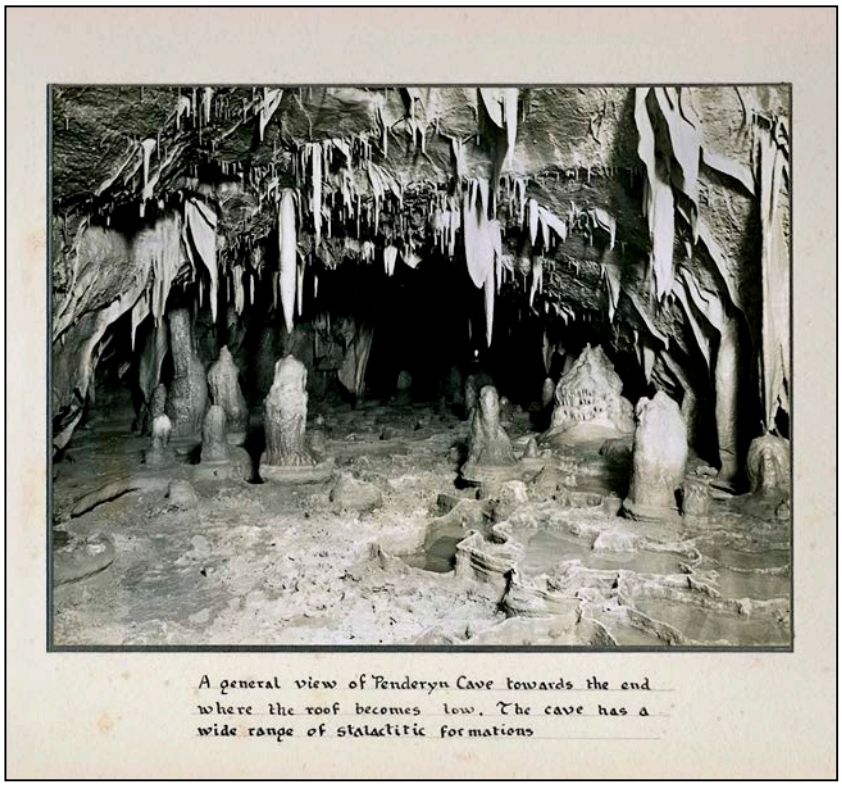
The changing nature of our work

The library welcomes enquiries by phone and email or by personal visit when this is possible; we are even able to assist enquirers on some weekends. The graphs show the changes in enquiries and visitors over the years and demonstrate how use is made of the Library; visitor numbers climbed again after the hiatus caused by the Covid 19 lockdowns. As the Library is located on a very popular walking route near Buxton, and signs on our door and windows advertise our presence, we often find passing walkers knocking on our door, curious to find out what is inside. We welcome these passersby and encourage them to come in and have a look round. Most don't know anything about caving but are fascinated to see what the Library is, and to hear that there are actually caves within a very short distance. We are happy to spread the word and publicise caving, including suggesting a visit to Poole's Cavern, the show-cave in nearby Buxton (which also hosts the British Cave Science Centre).

More information is now available online, and many clubs make their publications available on club websites, as opposed to providing printed copies. While many cavers make use of these and are able to download articles for themselves, it does mean that BCL no longer receives printed copies from some clubs, creating a whole new problem in that some of the club websites may prove ephemeral, and information could be lost.

The Library conducts specialised research on request, as opposed to scanning simple copies of articles from journals. In recent years more of our enquiries have required research on the part of the BCL, sometimes extending to a number of hours, occasionally spread over several weeks as results generate further research.

The Library has always been open to organisations to use for meetings, either in the evenings or at weekends and even for small groups during daytime mid-week. This is increasing, and in 2025 we hosted the summer BCRA Council Meeting; all DCA Council Meetings are held at BCL, and we have hosted other meetings. Local clubs are welcome to set up an evening of talks on topics of interest to their members and other cavers, hosted at the Library, using our facilities to enable people to join online as well as in person. We are able to make use of this "hybrid" feature to enable those unable to travel to the venue to take part in the meetings online.



The lost Penderyn Cave, near Glamorgan, now quarried away. Discovered by quarrymen in 1939, and photographed during the 1939 BSA Conference in Swansea. From the Rev. Black's Photograph Album VII (BCRA Online Archives).

Donations to the Library

We continue to receive a steady stream of modern publications, maps and surveys, both British and foreign, as well as archive material, donated to the Library all needing to be catalogued; our collection already runs into thousands of items, and is increasing all the time. This task would be impossible without the help of volunteers, to whom we are very grateful. However, we were almost overwhelmed by the huge collection of material from the late Don Mellor, which arrived in November 2024 as two large van-loads, unlisted and completely muddled up. This has created a huge amount of work, as yet unfinished, sorting all this and extracting literally hundreds of duplicate items in order to concentrate on important archive material contained therein.

Donations of caving publications are important to the British Caving Library and its users. But the Library would very much prefer that:

- We have a list of what is on offer in advance so we can select only those items we need.
- Or, there is a very small amount - not exceeding the size of one archive box.
- Or, funding can be provided to rent storage elsewhere.
- Or, space can be provided by members and/or BCA/BCRA.

It should also be noted that processing new material will take some considerable time, even using additional volunteers. We must reiterate that donations are the lifeblood of the library and often represent unique records, which will be of importance to cavers of the present and the future. However, at the moment, the Library struggles both in space and resources to process new material.

We have continued to receive other smaller archive collections, some photographic and others documentary, many of these being of considerable importance to the unravelling of the history of caving in Britain. We continue to seek the help of interested cavers via the **UKCaving** website or Facebook, to try to identify the cavers seen in the photos, and also the actual sites in the caves.

The BCRA Online Archive

It is our aim to ensure that as much of our archive material as possible is made available through the BCRA Online Archive, so that cavers and the public have access to these resources. Each new collection is catalogued and passed to John Gardner, who will then create a section for the website, which continues to grow year on year.

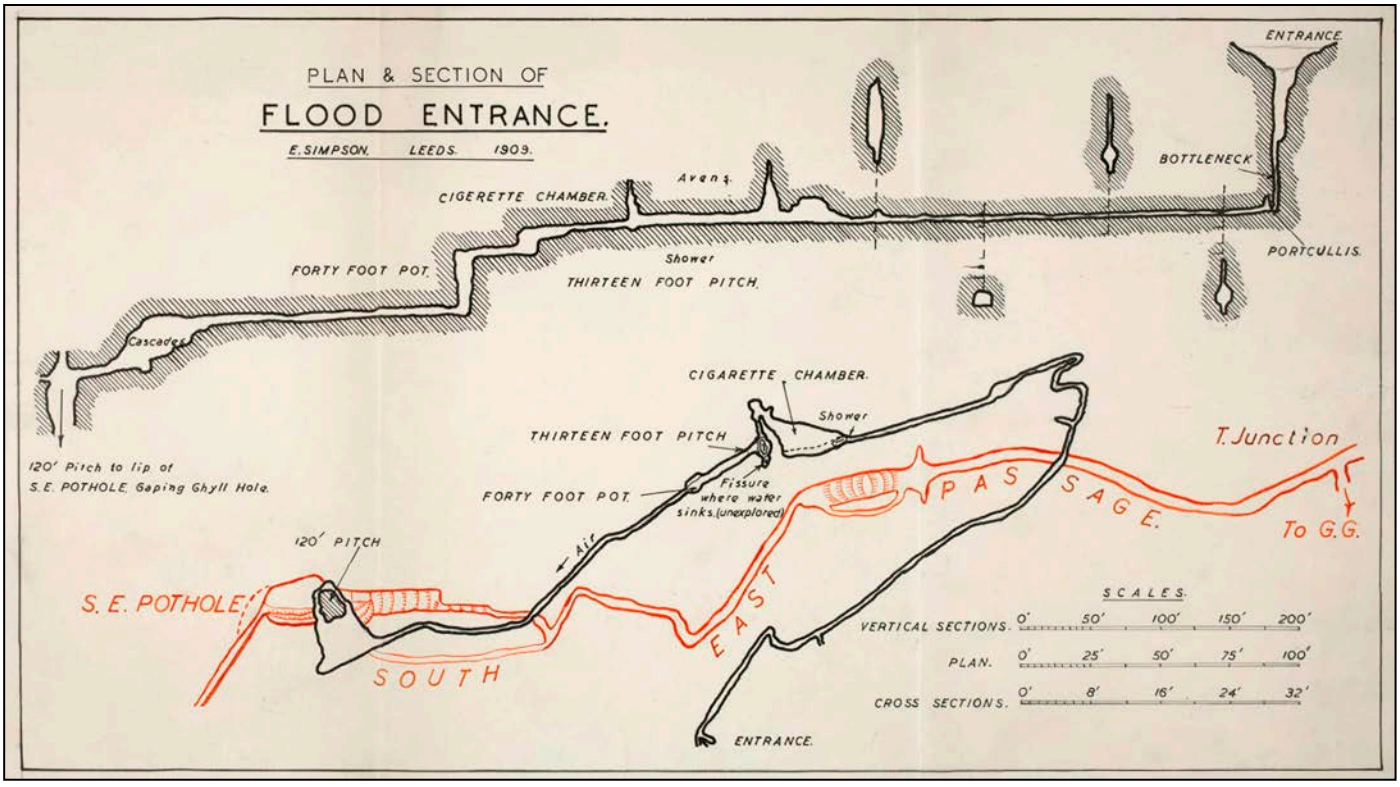
In 2025 we were made aware of a collection of BSA North Midlands Group records, dating from 1950 to1963, which detail all the explorations in Peak Cavern during these years. These include not just records of every caving and exploration visit, faithfully recorded by Les Salmon and copied to Eli Simpson, but correspondence between Salmon and Simpson throughout these years. With the permission of TSG, the current owners of the records, these have been scanned and added to the BSA Online Archive. This is now complete, thanks to John Gardner, so these records are accessible to all cavers interested in Peak Cavern.

The BSA/Simpson records were handed to the British Geological Survey (BGS) in Keyworth, Nottingham, by BCRA in 2009 on 'permanent loan'. In 2024, having been scanned by volunteers, these were finally uploaded to the BCRA Online Archives (BGS were not willing to host the collection online themselves because of copyright issues, but it had been established that they were happy for BCRA itself to host the collection.) The collection is now available as part of the BCRA Online Archives through the BCL website at **https://caving-library.org.uk/**

There is now an online index to the contents of the collection, and it can be accessed at **https://archives.bcra.org.uk/bsa.html**.

The majority of the material relating to the internal workings of BSA from around 1938 to 1948 is in 'miscellaneous folders' which seem not to have been sorted or indexed properly before being deposited at BGS, making them extremely difficult and time-consuming to search online. Much to our disappointment, it seems many of these miscellaneous folders were taken to the Edinburgh office of BGS but, for unknown reasons, were not scanned before they were returned to BGS at Keyworth. Hence, we still have no access to these records, which are of increasing interest to those wanting to trace the history of British caving. It would be relatively quick to go through the original folders of papers, muddled though these are, than to attempt to work through incomplete scans available online. Realistically, BCL staff cannot regularly visit BGS at Keyworth, but we cannot ask BGS staff to search for the rather vague type of information in which cavers are interested.

Jenny Potts, BCRA Library Co-Ordinator



Eli Simpson's survey of Flood Entrance; a fine example of one of the items from the Simpson records in the BCRA Online Archive.

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BCRA Publications

Material published by BCRA comprises journals, booklets and books, most of which are available online as well as on paper. The journals are *Cave and Karst Science*, published three times a year, and the *CREG Journal*, published four times a year. The latter is produced entirely by CREG SIG members and much of its content is of interest to a wide range of cavers. *Cave Studies Series* booklets, which address a range of topics including walks and cycle rides in karst areas, are aimed at the general public as well as cavers.

Cave and Karst Science

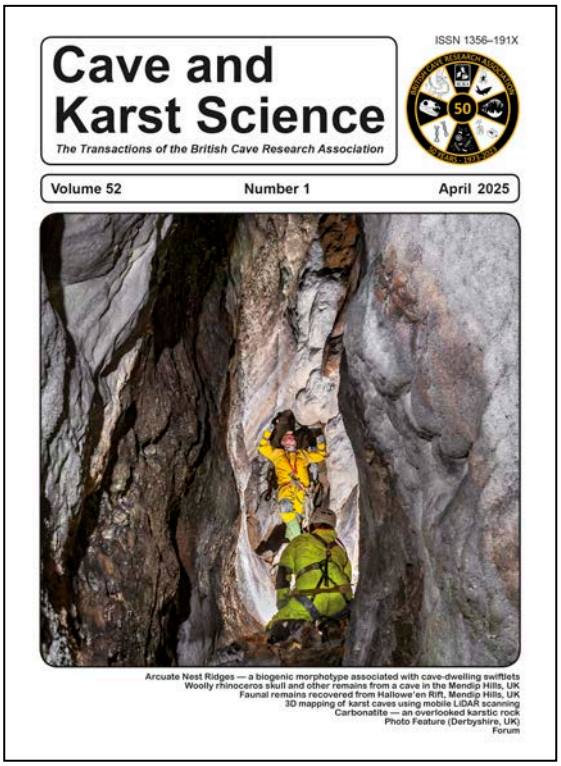
Cave & Karst Science is published three times a year; volume 52 was published in 2025. The journal is available in print, both to members and to non-member subscribers. Online access to recent volumes follows an Open Access model, meaning that users do not need to log in to download a paper. Issues of C&KS published before 2024 (i.e. volume 50 and earlier) continue to require a login, but all visitors to these pages are offered the option of a monthly free login when they try to download any protected content, so these items are essentially Open Access as well. For convenience, BCRA members can use a login ID that is valid until the end of January each year. This must be applied for at **bcra.org.uk/bookshop/online_id.html**. Libraries, universities and similar institutions that subscribe to C&KS as non-members of BCRA can request a free yearly login. We will also configure IP access on request. This is a procedure whereby, if you access our website from a certain specified IP address, you do not need to login to view protected content. Cave & Karst Science is available online at **bcra.org.uk/cks**.

David Gibson

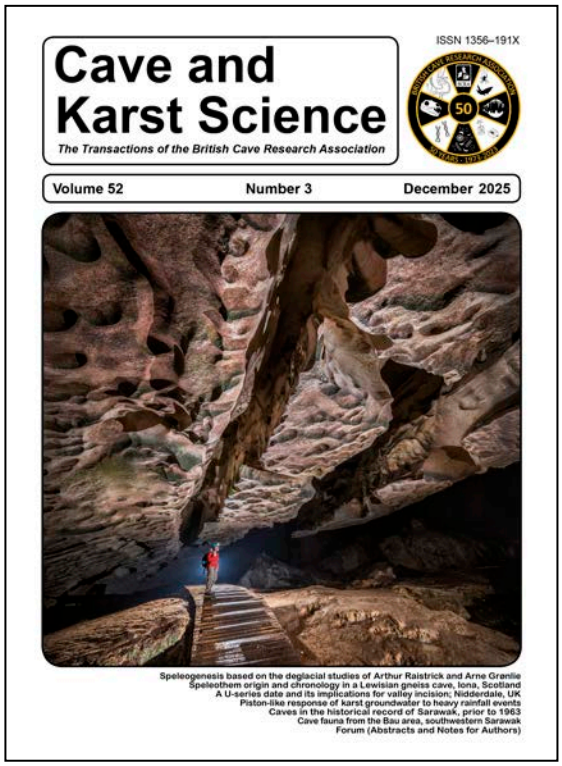
During the 2025 reporting year, *Cave and Karst Science* (CaKS) - The Transactions of the British Cave Research Association - continued in its role as the Association's flagship scientific serial publication. The three issues of Volume 52 appeared with cover dates of April, August, and December, containing respectively 40 inside pages, 52 inside pages and 48 inside pages. Whereas routine editing and journal layout had gone more-or-less to schedule, minor delays were experienced as various small procedural changes were introduced. Thus, the printed version of Issue 52(1) appeared in early-May, Issue 52(2) was delivered in early-September 2025, and Issue 52(3) appeared on time during December 2025. Once again, the printed copies of the journal were complemented by on-line versions that remain available to be read directly or for download, via the Association's website:

https://bcra.org.uk/pub/candks/covers.html

As previously, the journal continues to fulfil its major function as a fundamental vehicle for implementation and delivery of the Association's vision and strategy, by raising awareness of, and disseminating information about, all aspects of the cave and karst-related sciences. These purely scientific aspects are construed as also including any related and relevant aspects of technology, the history of both cave and karst exploration, and of associated scientific fields and developments. As is also well-established, the journal continues to maintain a close and partly symbiotic relationship with the other elements of the wider BCRA information strategy, including a variety of well-attended indoor and outdoor science-linked meetings, monthly online seminars, and other regular or occasional publications.



Front cover of Cave and Karst Science, April 2025



Front cover of Cave and Karst Science, December 2025

During 2025, the content of the three journal issues continued to centre upon ***Papers*** (subject to at least two specialist peer reviews) and ***Reports*** (*sensu CaKS*), most of which are reviewed by the editors and/or members of the Editorial Advisory Board (EAB). Although ***Features*** continued to be available as a third option, none appeared during 2025. Nevertheless, once again, we take this opportunity to remind readers (and potential contributors) that the need for this broad and flexible option was recognized and implemented in 2018 (as was first described in the *BCRA Review* for 2019). It remains available – and is invaluable – because it facilitates inclusion of items falling outside the limiting parameters that define the ***Paper*** and ***Report*** options. Past features have included such items as new translations of historical/landmark publications or (commonly historical) views of wide-ranging topics such as scientific developments or cave graffiti, along with items that might well be looked upon as *"authors' downloads"* of previously unpublished information, conjecture and memories related to sites or topics of potential speleological or karst interest. Adoption of this additional – and potentially extendable – category has widened (and continues to widen) the journal's versatility and the scope of its eclectic interest.

Expansions such as the creation of the ***Feature*** category are in line with the long-standing aspirations of the BCRA Council and the journal editors, that *CaKS* should provide support and opportunity for publication of the broadest possible spectrum of relevant material and that this should reflect the work and thoughts of cavers – whether or not with an academic or research background – as well as those of scientifically active caver or non-caver specialists. Another, conceptually related, publishing option was subsequently envisaged and trialled during 2022, appearing first in *CaKS* Vol.49(2). Described as ***Photo Features***, these short (generally one-page) contributions are intended to encourage cavers – and others – to submit (as a flexible guideline) up to three photographs, together with a brief targeted explanation or broader discussion of their scientific significance.

The crucial nucleus of the ***Photo Feature*** concept is to present a brief, illustrated, comment about any topic that will inform those with interests in aspect(s) of the cave and karst sciences and related issues that, in some cases, are wide-ranging. Expansive as this vision has been, there is scope for still broader and more flexible, interpretation of the idea. For example, a simple point of obvious cave or karst significance might prompt lateral thinking into other, perhaps only tenuously related, areas of interest. In other words, potential contributors need to know that they do *not* have to produce a mini-thesis restricted just to caves or karst. Instead, they can let their imagination spin, and see what comes out of the prompting photograph(s)… In this way, in some instances, the ***Photo Feature*** might provide a catalyst for subsequent valuable discussion and trading of ideas, perhaps even pointing to potential new areas for research and observation, in much the same way (but with a different format) as some "short communications" or "scientific notes" that have traditionally appeared within the journal's *Forum* section.

On a more subdued note, one short but sincere tribute to a recently deceased cave scientist appeared among the three 2025 issues of *CaKS*, with a relatively brief mention – in the 52(2) *Editorial* – of the life and work of one of the World's pre-eminent speleologists, the late Wolfgang Dreybrodt, who passed away in early-June 2025. The editorial decision to keep the BCRA's tribute brief was not taken lightly… his many contributions to, and influences upon, cave and karst science stand out undeniably because of their breadth and ongoing currency. Nonetheless, we chose instead to reference an hour-long interview that Wolfgang had recorded in January 2020 with Franci Gabrovšek, Douchko Romanov and Georg Kaufmann, as part of the *International Association of Hydrogeologists* "Time Capsule" series. Clearly his many personal reminiscences and assessments offered an unparalleled first-hand distillation of the essences of his life and the significance of his work, with content and valuations that we could not hope to have emulated within our limited *Editorial* space.

https://timecapsule.iah.org/episode/wolfgang-dreybrodt/

It is inevitably the case that any Annual Report such as this one will be at least partially repetitive, but we feel that once again it is essential to take this recurring opportunity to reiterate that, as in recent years, and in fact throughout the journal's long history, it continues to attract material related to the many and varied aspects of British caves and karst as well as from karst areas around the World. This situation is a positive and glowing reflection of two additional aspirational editorial viewpoints. At the more obvious level, submissions might relate to any aspect of caves, karst, and their associated sciences, technologies, and history, even if such relationships might initially seem tenuous or obscure. On the other hand, caves (in the broad sense) and karst (no matter what the host rock-type) are undoubtedly international. Hence, *CaKS* welcomes submissions of ***Papers***, ***Reports***, and ***Features*** from anywhere in the world.

Sorted into subjective and highly flexible groupings, the contents of Volume 52 included items related to: archaeology; cave/karst exploration history; geology/geological history; historical assessments/appreciations of scientific progress; hydrology; isotopic dating; mapping and survey (including LiDAR); palaeontology; regional cave/karst assessments and syntheses; and speleobiology (including its history). Likewise, the geographical spread of these contributions was wide-ranging, spanning: Croatia; Jamaica, Malaysia/Borneo (Sarawak); New Zealand; and various parts of the United Kingdom, including studies based in Cumbria, Mendip, Somerset, western Scotland, and Yorkshire. Commonly, aspects of some of the material from these topics, regions and areas had wider and/or international applicability.

All three issues of Volume 52 included a ***Forum*** section. Considered together, these three fora included: a book review; BCRA Annual Cave Science Symposium abstracts; Dissertation/Thesis abstracts; short communications (including additions to the occasional series: "Notes for Authors"); and an overview of the CaKS Editorial Team members, including the *EAB*. Issue 52(1) also included a one-page ***Photo Feature*** related to: "*Elephant's Head Chamber, Victoria Aven Series, Peak Cavern, Derbyshire, UK*" [Photos and text by Phil Wolstenholme], and Issue 52(2) contained an ***Extended Photo Feature***: "*Hydrological anomalies in Magpie Sough, Ashford, Derbyshire, UK*" [Photos and text by John Gunn]. Once again we stress the potential importance and versatility of this publishing option and encourage all readers (and their photograph-taking contacts) to consider whether they have potentially interesting images and a few supporting words for submission to the journal.

As was pointed out in last year's BCRA Report, for various technical and administrative reasons it is occasionally impossible to include a ***Forum*** section in *CaKS* but, as editors, we remain convinced of the tangible and potential value

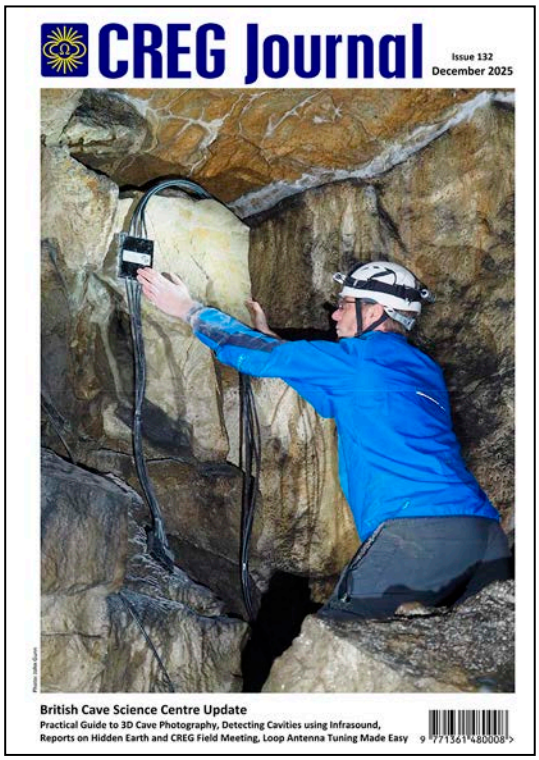
of these pages. We are satisfied that ***Forum*** continues to provide an invaluable outlet for presentation and discussion of all manner of science-related information – as well as many tangentially-linked topics – that might otherwise not see the light of day. An obvious example (alluded to above) is the series of short presentations, described together as '*Notes for Authors*', originated by Steven Donovan, which continues to provide down-to-earth advice about manuscript submissions, what they should include, and how to tailor each component to meet editorial expectations. These freely accessible guidelines – written in language and style that are accessible to all – represent a huge (but we suspect underused) resource that can provide immense benefits to all intending authors, regardless of their experience and background. That being said, once again we have had no feedback regarding how useful readers (and potential authors) find these items, but at least one of us wishes that they (or their like) had been available 40 years ago…

Looking at ***Forum*** more broadly, whereas "instant" publication can rarely be guaranteed, potential submissions of all types are always welcomed. Particularly (and here we are beating a remarkably well-worn drum *yet again*) we encourage early-career researchers and investigators to take the time (or *make* the time) to provide abstracts (for their academic projects), intermediate results, or brief details of their completed or ongoing research at whatever level. Such small investments of time *now*, to "advertise" larger – in some cases immense – investments of thought, effort, and inspiration, can bear dividends *later*, either in avoiding undesirable (and unnecessary) repetition and wasted effort, or by encouraging cooperation and cross-fertilization of evolving ideas. Equally, we could make a plea for late-career scientists/researchers/developers and/or cavers to consider the value of "dumping" (in the sense of downloading) hints about (possibly nebulous) cave-and karst-related ideas that were never pursued. Such abstract resources might not yet be sufficiently refined to feed into a ***Feature*** but, as retirement looms, they become ever-less likely to see the light of day as other interests and distractions emerge, to encroach upon and, eventually, fill that mythical 'copious free time' shockingly quickly and efficiently.

David Lowe and John Gunn
Cave and Karst Science editors.

The CREG Journal

BCRA's Cave Radio and Electronics Group produces a quarterly journal on the applications of radio and electronics to caving, as well as articles on cave photography and cave surveying. Four issues were published in 2025, starting with issue 129. The journal is available in print at £20, with overseas postage extra. Online access is available by subscription at £5 per year. Details, including contents lists, are available at **bcra.org.uk/cregj** where there is a dedicated search engine that will search the database for matches, for both author and abstract.



Dr Matt Rowberry installing a novel positioning system for three-dimensional fracture displacement monitoring in the British Cave Science Centre. Photo: John Gunn.



Ken Smith places a Pinger in an air bell in an underwater cave in the Nullarbor Plain, Australia. Photo: Dr Richard Harris.

Cave Studies

No books in this series were published in 2025. For further information see **bcra.org.uk/cs**.

General Series

No books in this series were published in 2025. For further information see **bcra.org.uk/gen**.

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Special Interest Groups

In 2025 there were five operational SIGs, but with varying degrees of activity. A summary of the latest status of each of the SIGs can be found at **bcra.org.uk/sig**.

BCRA's Special Interest Groups are a means of enabling our members to associate and communicate in a more detailed way than would be possible amongst the general membership. They are intended to be sources of expertise and information, and are valued as a resource both for BCRA members and the general public. Typical SIG activities might include issuing newsletters and publications, the organisation of training sessions and field meetings, and the organisation of workshops and symposiums, including sessions at the annual BCRA Cave Science symposium and Hidden Earth. Clearly, some SIG activities involve wider networks of individuals than are to be found within the membership of BCRA. Thus, a key role of SIGs is to engage with a broad constituency of academic, professional and recreational cave users who have a shared interest in the advancement of cave science and technology, even if these people are not members of BCRA.

Over the years, BCRA's trustees (i.e. the members of BCRA Council) have come to realise that a single "one size fits all" policy for the SIGs was not suitable and so our guidelines were revised. Essentially, Council gives each SIG permission to use BCRA's name in its title, and it offers some administrative support. In exchange, Council expects each Group to act publicly, to promote BCRA and its activities, and to seek to bring a breadth of expertise to the organisation. Council's current view is that groups do not require a formal constitution, but should be free to organise their affairs in the most appropriate manner – more or less formal depending on the size of the group. Council's latest SIG guidelines were published in the *BCRA Review 2018*, and are online at **bcra.org.uk/sig**. Thus, of the five SIGs, CREG is the only one with a direct oversight by BCRA Council. Some 15 years ago, the CREG 'committee' was disbanded, as the group did not see the need for a formal structure (with elections, AGMs and so on) to govern what was mainly journal publication in the hands of a competent editor. (Similarly, there is no formal 'committee' governing *Cave and Karst Science* editorial operations). This worked well for CREG, but in late 2021 they requested to become a formal sub-committee of BCRA, because this structure would provide some foundation that would perhaps encourage outsiders to get more involved. In 2025 the committee comprised Rob Gill, Mike Bedford, David Gibson and Tony Haigh.

BCRA used to have SIGs for Cave Photography, Hydrology, Speleo-History and Librarians, but these have all been dissolved. We are sometimes asked why we cannot revive them, and there is the implied criticism that we are failing in some way by not doing so. But BCRA is run entirely by volunteers – there is no such thing as 'BCRA' as a tangible entity – only the volunteers within the organisation. Managing a SIG takes a lot of time and effort, and requires a dedicated group of people. We do not consider that it is BCRA Council's task to seek such volunteers and, indeed, seeking a volunteer to do a specific task has tended not to work. Instead, BCRA needs to go where its volunteers lead, and thus the reality is that it is the task of the people who enquire about forming (or reviving) a SIG to build their own team to do the job.

The three 'founder' SIGs – CREG, EUG and CSG – continue to have enough support to operate at a level that they find sustainable, but it is notable that the newer SIGs – Biology and Archaeology – have been less successful at maintaining a pool of active participants. This might be a reflection on modern work and leisure practices where people do not have the time to commit to a traditionally-organised group. It could also be that some of the groups are just too specialised. The founder SIGs were truly specialised towards caving and fulfilled a specific need, but other topics – cave photography, cave biology, cave archaeology, caving libraries – are perhaps just specialisms of more broadly-based groups? It is tempting to suggest that organising a SIG in any depth requires a 'special focus' that people just do not have these days. In other words, perhaps it is actually not the Groups that are 'special', but the people who created them? If that is the case, then even the strongly-managed BCRA 'founder' groups might be starting a decline, as we all get older and approach retirement. It is certainly worth mentioning the extreme dedication and sheer quantity of work that some of the members of these groups have put into their SIG activities. If it isn't mentioned here it will probably go completely unmentioned!

The Cave Surveying Group emerged at around the same time as the Cave Radio and Electronics Group, and, for some time CREG published the CSG's newsletter Compass Points for them. The main protagonists in the CSG were also the people behind the Survex project (**survex.com**), which is a free open-source software package for mapping caves. The project was started in 1990 by Olly Betts and Wookey, who are still very much involved with it some 35 years later – an achievement worth noting.

The Cave Radio and Electronics Group has now been in existence for 36 years and the same people who were there at the start – David Gibson and Mike Bedford – are still closely involved with the group. As mentioned elsewhere in this Review, Rob Gill has just stepped down as Editor after completing 19 years in the post. By the end of 2024, CREG had published 128 journals, 67 of them edited and laid out by Rob Gill. In total, to the end of 2024 [sic], CREG had published articles by 307 authors. Five authors – Mike Bedford, David Gibson, John Rabson, Peter Ludwig and Rob Gill – have contributed 50% of the material, with Mike's and David's articles each accounting for almost 20% of the total – some 330 articles each! Eight authors – Stuart France, David Gibson, Chris Howes, Mike Bedford, Ian Drummond, Rob Gill, Pete Allwright and Brian Pease – have contributions that span over 100 journals, indicating a level of support over a long period of time. This represents a huge success for the group which, nevertheless, is now starting to see its decline, with not much more than 100 subscribers out of a total of over 800 subscriber numbers issued.

One can only speculate as to why the success – and the long-term continuity – of CREG and CSG is not matched by the other Special Interest Groups. Clearly it is down to a small group of special people, but why have other disciplines not produced similar people; for archaeology, biology, hydrology and so on?

David Gibson

Cave Radio & Electronics Group (CREG)

CREG published four journals in 2025 (#129–132) and it held a field meeting in the Yorkshire Dales over the weekend of 18–19 October 2025, which is reported in Journal 132, see **bcra.org.uk/cregj132**. The editorial team in 2025 comprised Mike Bedford, Rob Gill, Luc Le Blanc (proof-reading) and new recruit Chris Ross, as assistant editor. David Gibson continues as the website editor and manager of the archives. The Cave Radio and Electronics Group is currently administered by a BCRA sub-committee rather than being a separate entity with its own AGM and elections. The sub-committee members are listed at **bcra.org.uk/info.html**.

The debate continues as to whether CREG should change direction, and concentrate on an online publication; perhaps a blog, instead of producing a printed journal. However, this does not appeal to any of the current team although there is nothing, of course, to prevent anybody else from starting such a project. The present CREG production team all still express a preference for paper-based publications because, in part, this imposes a discipline and professionalism that can be lacking in an online blog. And, additionally, paper has a permanence which is appealing. For example, the British Caving Library, which BCRA manages, contains paper copies of caving journals and magazines dating from the 1950s and it is difficult to believe that an online archive created now would still be available after 70 years – the risk of it disappearing seems too high.

Having said that, CREG's journals are all available online at **bcra.org.uk/cregj** for a small annual subscription. These are PDFs of the printed version of the journals. Additionally David Gibson is investigating the possibility of converting CREG's PDFs into plain HTML, which is much more readable on phones. The suggestion is that if the material can be easily read on a phone it might encourage additional subscribers and contributors. The difficulty is that it is not straightforward to automate the conversion process due to the complex layout of the printed publication. However, some acceptable samples have been produced and the project continues, although the first public demonstration will probably not be until the end of 2026. The same concept could also, of course, be applied to *Cave & Karst Science*.

Back in 2022, faced with a slow but steady decline in our subscriber numbers, we made a decision to broaden the scope of the CREG journal to include more photography and surveying topics and (to be candid) more of just what we felt like writing about. We have produced some good material since then, from a mix of established and new authors. It is encouraging how many new authors we manage to coax into writing for CREG, although most only contribute one or two items and, sadly, they do not turn into long-term subscribers.

David Gibson



Pinger 2.0 underwater radiolocation beacon, designed by Ken Smith and Aren Leishman. See CREG Journals 131 and 132 for details.

Cave Surveying Group (CSG)

No CSG field meets actually fell into the 2025 reporting period (they happened end-2024 and start-2026). But we did have our meeting at Hidden Earth, which saw the biggest gathering we have ever had. There has been a resurgence in surveying amongst 'team youth' so, in a very welcome development, more than half the attendees were under 40. We had reports and demos of various activities and projects.

The Dan-yr-Ogof resurvey project has handed the baton on from Mike McCombe and Jon Jones to a keen new youth team, led by ex-Cardiff cavers, with the cave registry archive demonstrating its usefulness as the continuing repository of both old and new data. A resurvey project of Southerscales fell has also been started, with Todd Rye and Lara Bartleet as main protagonists. Zac Woodford demoed his prototype Therion-drawing software. Brendan Hall showed off his

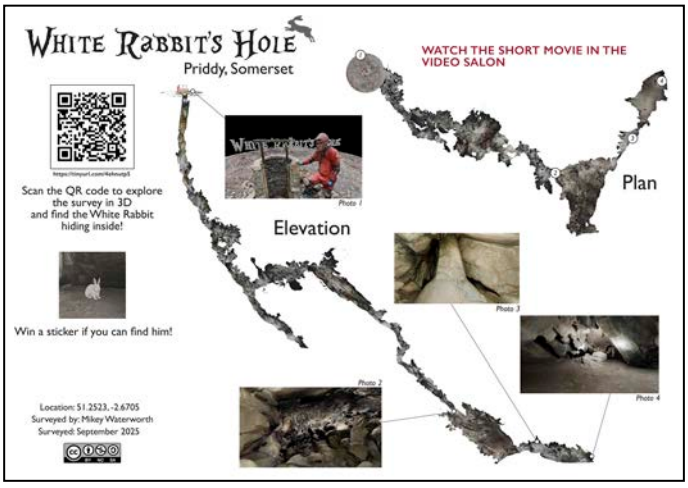
DiscoX upgrade of the SAP6 design, with much better waterproofing and software improvements as well as the all-important flashing LEDs. Phil Underwood showed the current iteration of his helmet-mounted open-hardware LIDAR scanner. All in all, it was great to see so many new faces interested in surveying, and getting stuff done.

Andrew Atkinson and Wookey remain as Secretary and Chairman respectively, with Michael Holliday joining Nick Bairstow as field-meet organisers.

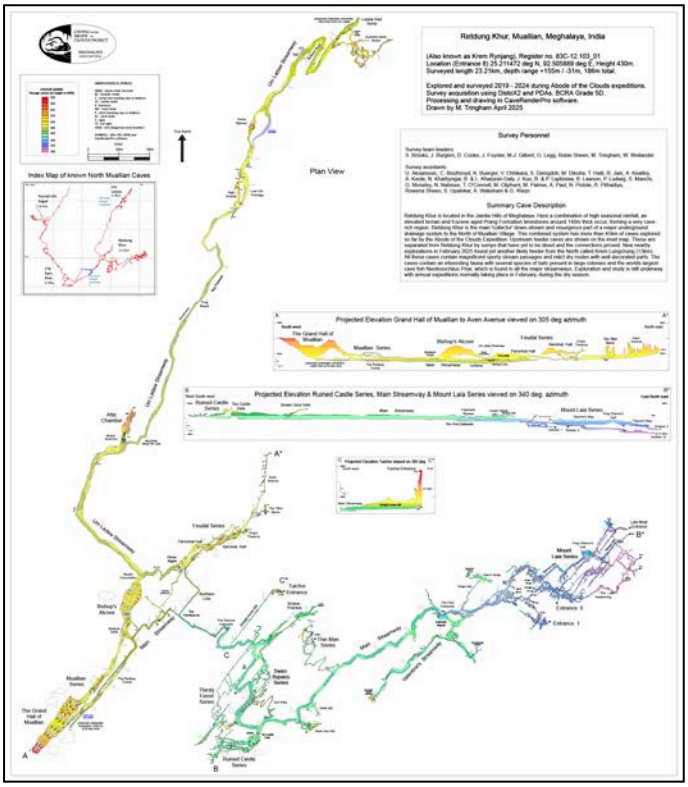
The transition of the cave registry from BCA to BCRA servers is ongoing (rather slowly). There has been plenty of usage, with 7 new users in 2025, and activity in various repositories.

The CSG organised the Cave Survey Salon at Hidden Earth, and also judged the Arthur Butcher award on behalf of BCRA.

Wookey



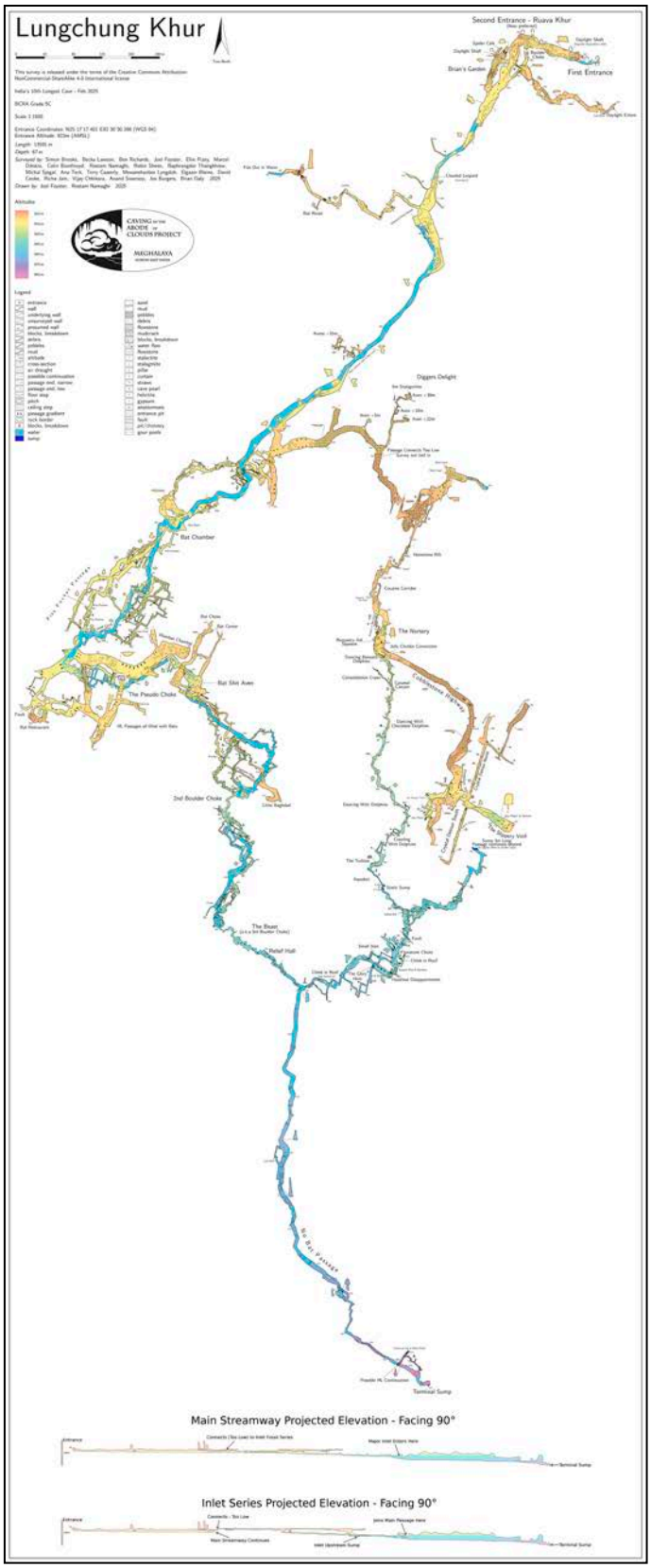
Distinction in the Survey Salon 'Judged Large Survey', of White Rabbit's Hole, by Mikey Waterworth. Photo: Wookey.



Distinction in the Hidden Earth Survey Salon 'Judged Large Survey' of Retdung Khur, by Mark Tringham.

Selections from the Hidden Earth 2025 Survey Salon.

Further examples are on Page 34.



Winner in the Hidden Earth Survey Salon 'Judged Large Survey' of Lungchung Khur, by Joel Foyster and Rostam Namaghi.

Cave Archaeology Group (CSG)

After being effectively moribund for several years, 2025 saw the revival of the Cave Archaeology group, when Rick Peterson from the University of Lancashire took on the role of convenor, assisted by Linda Wilson from the University of Bristol. Rick produced a new website for the group:

https://rpeterson73.wixsite.com/cave-archaeology-gro

Which states:

"The Cave Archaeology Group (CAG) works to help cavers, archaeologists, museum professionals and the public explore, interpret and look after archaeological and palaeontological remains in and around caves. We aim to promote working relationships between these groups and to encourage a transfer of education and skills, leading to a better understanding between individuals, groups and disciplines."

Rick invited anyone interested in Cave Archaeology to complete a short survey, and leave their contact details so they could be kept informed about the group, and its future events - 41 people responded to the survey, and are now on the mailing list.

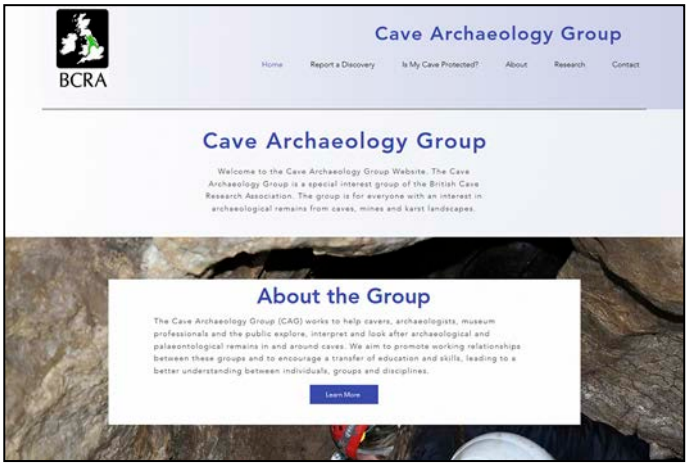
Linda acts as moderator/maintainer of the group's Facebook page:

https://www.facebook.com/groups/338978972799093/

Rick gave a talk about the revived group at the 2025 Hidden Earth weekend. Cave archaeology also featured as one of the trips offered at the 2025 BCRA symposium weekend held in Bristol when David Hardwick and Dr. Adelle Bricking led a trip into Fishmonger's Swallet in South Gloucestershire.

The aim is to continue to grow the Cave Archaeology Group and to hold a field meeting in 2026 at Poole's Cavern in Derbyshire.

Linda Wilson



Screenshot of the new Cave Archaeology Group website.

Right: Before-and-after photos of the participants of the Fishmonger's Swallet Symposium trip - in different orders! Top photo: Dr. Adelle Bricking, David Hardwick, David Cooke, Jim Bates and Brighid Black. Photo: David Cooke.

Cave Biology Group (CBG)

The Cave Biology Group did not organise any meetings or events in 2025, and there was no activity on its Facebook page. In essence, the group is dormant until a volunteer steps forward to revitalise it. At the moment, the group has no formal members and no formal officers. It should, perhaps, be pointed out that the Facebook page does not belong to BCRA; rather, it is a public page about the BCRA SIG. To keep some control over the use of BCRA's name on the page, one of the group's moderators has been appointed as BCRA's contact with the group. Although the group is essentially dormant, the Facebook page is still a place where like-minded individuals can meet and discuss cave biology.

David Gibson

Explosives User Group (EUG)

The EUG did not organise any meetings or events in 2025, and its activity was limited to a small number of posts on its private mailing list which, since the group's inception, has been managed by David Gibson. In 2025, the list was migrated to BCRA's new Sympa installation at **lists.bcra.org.uk**. Although the group has not been active, a poll of subscribers to the mailing list has indicated that they do still value the existence of the group; and they appreciate that it is there to support them, should the need arise. The group also manages a website with a private area containing useful documents at **https://eug.bcra.org.uk/**.

Two courses are in the process of being arranged for 2026.

David Gibson and Phil Parker





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Grants and Awards

This section of the Review covers the various awards and grants that are made in furthering the Association's objectives. They comprise prizes and awards that are made annually, and the monetary grants that are made to individual researchers and to caving expeditions. The UKCCEF differs from the other grants and awards discussed in that it is used only 'in emergency', but remains an important part of the portfolio.

BCRA's Annual Awards

At the annual caving conference – Hidden Earth – BCRA usually presents various prizes and awards. The Arthur Butcher and Tratman awards are reported here, together with the Premier Trophy award in BCRA's Photo Salon competition. Further information about awards and prizes at Hidden Earth 2025 can be found at f**orms.hidden.earth/he/history**.

Arthur Butcher Award

BCRA awards the Arthur Butcher prize for outstanding and innovative contributions to cave surveying. The judges consider projects brought to their attention during the year, as well as all surveying work that is on display at the Hidden Earth conference. The award judges are now following a guideline that this award shall only be made in years where an exceptional contribution to cave surveying is identified.

This year, the award was given to **Becka Lawson**, for decades of surveying, drawing up, and badgering people in many, many projects across the world. And particularly for training a lot of new people. More than one person we talked to described her as an inspiration, and some have gone on to be prolific surveyors themselves. Becka wins £100 from the British Cave Research Association.

Citation by Wookey, on behalf of the judges

Photo Salon: Premier Trophy

The Premier Trophy is so named because the trophy is a replica of the millionth lamp manufactured by the Premier Lamp Engineering Co Ltd in Leeds in January 1950. It is awarded as the top prize in BCRA's annual Photo Salon competition, at the Hidden Earth conference. The winner is awarded a cash prize (currently £100) by BCRA and will have their name engraved on the trophy, which is stored at the British Caving Library.

This year, we decided to keep to the simplified structure of the Photo Salon that we have used since 2023. We awarded the Premier Trophy for the best portfolio of five images, and we awarded one prize in the print and projection classes; as well as merits and distinctions. (The traditional monochrome and colour print classes were, once again, merged into one).

We once again ran our new competition for Young Photographers, defined as being under 22 years of age on the day of the competition. This competition used a separate organising team, with separate judges, and the team sought their own cash sponsorship for the additional prizes. The proviso was that the competition entries all had to be entered in the main Photo Salon as well, and had to use the main salon display boards. This worked well, and seemed a good way to balance the available volunteer effort with the presentation of a 'seamless' competition.

Once again, there was no **Cave Life** or **Cave Science** category. Additional competition categories such as these make the organisation much more difficult, all the way from the entry form, through to organising the labelling of the displays, the judging and the prize allocation. Our current view is that if there is a demand for additional special categories such as Cave Life or Cave Science, than someone must step forward to organise the category along similar lines to the our Young Photographer category; that is, they must provide a team to do it.

The 2025 Premier Trophy was awarded to **Bill Nix**.

David Gibson

The Tratman Award for 2025

The Tratman Award recognises excellence in caving publications, so the judges have an annual task to read as widely as possible to seek out quality writing, presentation and production. Many elements are taken into consideration: the quality of printing and binding as well as whether a journal series shows improvement rather than continuing in what might be an already high standard. As this is a British award made in memory of pioneer caver E.K. Tratman, only British authors or British publications are eligible – including not only books but also journals and individual articles within these.

The judges are independent of the sponsor, BCRA, which ratifies the decision and covers the cost of creating the trophy. For the publications of 2025 the judges, this year being Joe Duxbury, Chris Howes, Alan Jeffreys, Chris Scaife and Linda Wilson, whittled down suggestions into a shortlist which then became shorter, producing the following in alphabetical order of author:

High Pasture Cave by Steven Birch and Jo McKenzie
A more academic title than one for light reading, at over 600 pages in hardback, High Pasture Cave – which concerns archaeological work in this cave on the island of Skye – is well laid out and engaging to read, as well as making a definitive record of finds.

Ogof Ffynnon Ddu by Peter Collings-Wells
Peter's concept was to produce a book of high-quality photographs tracing the course of Ogof Ffynnon Ddu, adding suitable captions and topics such as conservation and restoration in the system, the huge Smithy rescue and the genesis of the cave. The resulting volume is a tribute to all concerned, especially with donations to cave rescue and South Wales Caving Club from every sale.

Windrush. An Underground Cotswold Stone Quarry, edited by Joe Duxbury and Jonathan Maisey
This well-researched book on the historic mine in Gloucestershire is a model for further mining books, especially those privately published, with coverage not only of the known passages and miners' graffiti, but also of its history, archaeological artefacts and surveys. A fine production.

Giant Caves of Gunung Mulu and Buda, Sarawak, by David Gill
With the idea of updating Mike Meredith and Jerry Wooldridge's 1992 book Giant Caves of Borneo, Dave Gill wrote new text and collated photographs from across many expeditions. He had completed work when he died in 2024, so the title was published posthumously. Its coverage is inspirational and well deserves reaching this list.

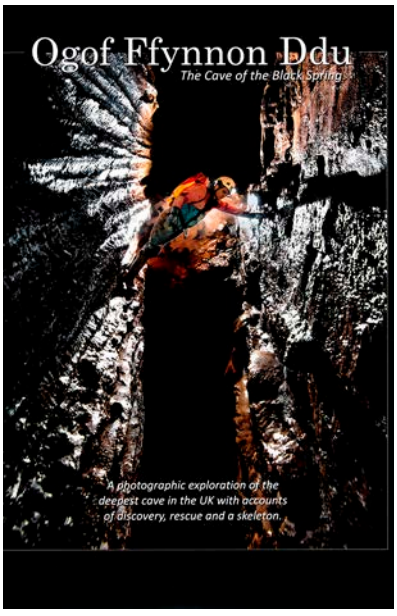
The series of articles on Redhouse Lane Swallet by Tim Nichols in Descent (302, 304 and 306)
Gaining the Tratman Award shortlist for the second year running, again writing about Forest of Dean exploration, is Tim Nichols. He benefited from the latest discoveries providing exciting subject matter, but he then covered this in excellent and interesting detail.

Mulu Caves 2024, edited by Roo Walters
The reports on the many and varied expeditions to Mulu in Malaysia have, over the years, increased in quality and breadth and the recent ones are now far more readily available to cavers who were not part of the team. The most recent editor is Roo Walters, who has maintained the high standard attained over the past few years.

The Cave Explorer by Kate Winter
Kate Winter's latest book may not be well known within the caving community, as it is intended for children. It is superbly written and beautifully illustrated, as well as being filled with fun facts – so much so that it is a delight to read even by adults, making it well worthwhile seeking out a copy, and a must if you have your own young offspring.

After much discussion and arguments raising the profile of (in particular) for their extremely high quality, *Windrush* and *The Cave Explorer*, the final accolade goes to **Ogof Ffynnon Ddu**, with many congratulations to Peter Collings-Wells for bringing the project to fruition.

Peter will receive a hand-made statuette featuring the book crafted by artist Ceris Jones, which he will retain as a physical reminder of his gaining this prestigious award.



Chris Howes, for the judges

Fraser Simpson Award

This annual award is given by the Hidden Earth Team for recognition of excellence in underground video creation. Nominations, with reasons and examples of work are welcomed by the Hidden Earth conference manager in advance of the event. The work does not have to feature in the Video Salon. The award consists of a prize of £100, donated by Hidden Earth, and an engraved stone to keep for a year. Further information is at **hidden.earth/salons/video/**.



The 2025 Tratman Award. Photo: Ceris Jones

Fraser Simpson died in 2017. He was an audio-visual technical expert at Fife College, an accomplished caver and a key member of Grampian Speleological Group. Fraser was also a valued member of the Hidden Earth team, due to his extensive AV knowledge and expertise. His film-making skills were considerable and the Hidden Earth Team and BCRA Council have agreed to set up an annual award to commemorate him and his contributions. The criteria for the award sits in innovation and excellence within the world of speleological video.

Over the last two years, a significant cave discovery has transformed a caving area, with reports of extensive passages and beautiful formations. A vast amount of work has been recorded, as it happened, 'warts and all'. The judges were impressed by this innovative approach of serialising the discoveries in **Redhouse Swallet**, and quickly reporting them to the wider world – something that has not done before on this scale, as far as the judges are aware. There have been 20 episodes so far, and exploration continues.

Thus, for 2025, the Fraser Simpson award is given to **Ian Healey** for his work on the Redhouse Swallet project, and his video ***Redhouse - One Year On***, which also won this year's Video Salon.

Les Williams

Giles Barker Award

For 2025, the prestigious Giles Barker Award, presented annually and jointly funded by the Red Rose CPC and Morgannwg CC, for continuing excellence in any aspect of cave photography, was presented to Bartek Biela at the Hidden Earth conference in September. Bartek's creative imagery has visibly improved, and become more prominent over the past few years – he has been taking cave photography at a serious level for around fifteen years, and exhibiting the results over the past six, including some inspiring results from the sharp end of



The 2025 Giles Barker Award. Photo: Ceris Jones

the 2024 Mulu expedition. In 2025, his imagery was chosen to represent Hidden Earth.

Bartek commented: "It is a great honour to receive the Giles Barker Award, and it feels very special to be amongst the recipients, the ones I was always looking up to." Congratulations, Bartek, on receiving this 30th award in the series, which as usual is a fine trophy specially created by Ceris Sloane that will be retained by Bartek in perpetuity.

Chris Howes

UK Cave Conservation Emergency Fund

The constitutional aim of the **UK Cave Conservation Emergency Fund** (UKCCEF) is to support, by loan or grant, projects that further the conservation of caves and cave features, noting that all reference to a cave or cave feature are intended to include historic mines, caves and other places of speleological interest within the United Kingdom. The Fund exists to be called upon where urgent action is required to protect a cave or cave feature such that waiting for funding to be raised through other avenues would be too slow.

In order not to deplete the Fund too quickly, loans are the preferred methods of assistance, with repayment made (with optional interest) as soon as sufficient funding has been raised by other means. A smaller amount may be made available as an outright grant under certain circumstances. The amount in the Fund can be increased through donations, bank interest and by any interest raised on loans made.

At the end of 2025 the Fund stood at a total of **£20,679**, so in 2026 a loan of up to **£3,102** (15% of the capital) may be made for any one project, whereas the maximum grant available is £**1,034** (5% of the capital). So, with bank interest coming in but no donations or interest on loans, the capital sum has increased by around £155 since the previous year, and the level of grant/loan available has also increased in proportion. This small increase in capital is due to UKCCEF having awarded neither grant nor loan in 2025.

Recommendations on applications to the Fund are dealt with by a Panel of six, consulting by email: five individuals nominated by the Regional Councils of Caving and the Forest of Dean Conservation and Access Group, and one individual nominated by BCRA (who acts as the 'secretary' for the Panel); each serving for a 5-year term. The Treasurer of the Fund is the BCRA Treasurer.

Current Panel Members remain unchanged since last year:

Northern	Kay Easton
Peak	Wayne Sheldon
Mendip & S.W.	Les Williams
Wales	Stuart France
Forest of Dean	John Hine
BCRA Rep. (Enquiries)	Jenny Potts

Applications may be made via any of the regional representatives or direct to the 'Secretary'. As it is an 'Emergency Fund', UKCCEF is rarely called upon for assistance, but is intended to remain in the background in case cash should be needed urgently. 2024 was the first for many years during which a formal application was made, and we were delighted to be able to respond quickly and positively. I have asked the Panel Members to suggest ways that we might make the Fund more relevant and useful to cavers.

Further information is available from the main BCRA website: **BCRA.org.uk/ukccef**.

Jenny Potts (BCRA Representative)

Hidden Earth 2025

Between 1974, when the Association was formed, and 2019 the BCRA has hosted annual National Caving Conferences with various names including the National Conference, the Annual Conference, the National Speleological Conference, the BCRA Conference, and, since 1996 as Hidden Earth. The British Caving Association, which was formed in 2006, also sponsors Hidden Earth but all of the work is undertaken by a team of volunteers led by the conference manager, a post that has been held by Les Williams since 2006. Unfortunately the covid pandemic led to the cancellation of HE in 2020 and 2021, and no suitable venue could be found in 2022, but normal service was resumed in 2023, the chosen venue being the Gordano Sports Centre, Portishead, Bristol.

For 2024, the meeting moved to the Royal International Pavilion at Llangollen in North Wales, and for 2025 the meeting retained the same venue, where Les and his team of volunteers delivered a superb conference over the weekend of 26th-28th September. There were 996 delegate days booked in advance, and 368 delegate days arrived over the weekend. So an average of 680 people present each day. We think this was a record attendance.

Over the weekend there were 46 talks and workshops and whilst there was no cave science section per se, several talks included science content, most notably: ***Once upon a slime: snottites and biofilms in neutral mine drainage environments in Derbyshire*** by Jo White; ***British Cave Science*** by Andy Farrant and John Gunn; ***Scientific Investigations in Greenland's Caves: Unlocking High Arctic Climate Histories*** and additionally ***Greenland Caves Project 2023: Exploration of WUL-8, Wulff Land, North Greenland***, both by Gina Moseley, and ***Gower's newest cave, Ogof New Park. A 2024 film of its discovery and a science report*** by Andy Freem.

Abstracts of these, and all other talks and workshops, can be viewed at:

https://hidden.earth/lectures/index.php?y=2025

CONFERENCE TEAM CREDITS

Conference Manager - LES WILLIAMS
Conference Treasurer: David Gough
Conference Secretary: David Gibson
Timetable Manager: Gary Douthwaite
Trade Hall Manager: Badger

Technical Team: Manager - FRANK TULLY
Frank Tully with: Adrian Turner, Bartek Biela, Ben Marks, Buddy (Roadie), Dave Appleing, Firas Fayad, Helen Fairclough, Huw Jones, Jonathan Wilkes, Josh Bratchley, Josh Henry, Laura Appleby, Tim Webber.

Reception Team: Manager - LOU BIFFIN
Lou Biffin with: Andrew Morse, Jess Burgess, Kat Hawkins, Sam Drake.

Events Team: Lecture Secretary - GARY DOUTHWAITE
Signposting: Paul and Tiggy Dummer
SRT Events: Mark Wright, Dave Cowley, Jess Burkey
Speleo Olympics: The Roberts Family (Andrea, Philip, Justin, Charlie)
Stomp DJ: Ben Marks
Opening MC: John Gunn
Opening Video: Keith Edwards
Closing MC: Alan Jeffreys
Closing Video: Ian Healey
After-Dinner Speaker: Rostam Namaghi
Closing Script and Projections: David Gibson

Bookings and Publicity Team
Bookings Manager: David Gibson
Website and Social Media: Gary Douthwaite
T-shirt Design: Tony King

Competitions Team: Manager - DAVID GIBSON
Photo Salon Co-ordinator: Bill Nix. Judges: Alex Anderson, Nicky Bayley, Ceris Jones, Pete Glanvill.
Young Photographer Co-ordinator: Julie Wooldridge. Judges: Julie Wooldridge, Mark Burkey, Badger.
Video Salon Co-ordinator: Steve Thomas, Ian Healey, Footleg, Nicola Bayley, Steve Woolven, Bartek Biela.
Art Salon Co-ordinator: Robin Gray, Ceris Jones. Judges: Judith Calford, Robin Gray, Buddy.
Surveying Salon: Andrew Atkinson. Judges: Wookey, Andrew Atkinson, Lara Bartleet, Ash Gregg, Phil Underwood.
Club Stands Award: Les Williams. Judges: Thomas Arbenz, Chris Scaife.
Arthur Butcher Award: Wookey. Judges: Wookey, Andrew Atkinson, Diane Arthurs.
Tratman Award: Chris Howes. Judges: Joe Duxbury, Chris Howes, Alan Jeffreys, Martin Mills, Linda Wilson.
Giles Barker Award: Chris Howes. Judges: Morgannwg CC, Red Rose CPC.

Sponsorship and Prizes Team
Margaret Richardson with: Julie Wooldridge, Rosemary Taylor.

First Aid team - Chris Williams
Chris Williams with: Gareth Stonely, Josh Benton, Josh White, Joshua Benton, Kieran Wyatt, Mary Cutts, Paul Wilman, Sam Drake.

Special thanks to:
Pafiliwn Llangollen Pavilion: Keith Potts and his team

Thanks also to the lecturers and the session chairs, and also to the traders, sponsors, and to all delegates from the UK and overseas, who all contributed to making the event a success.

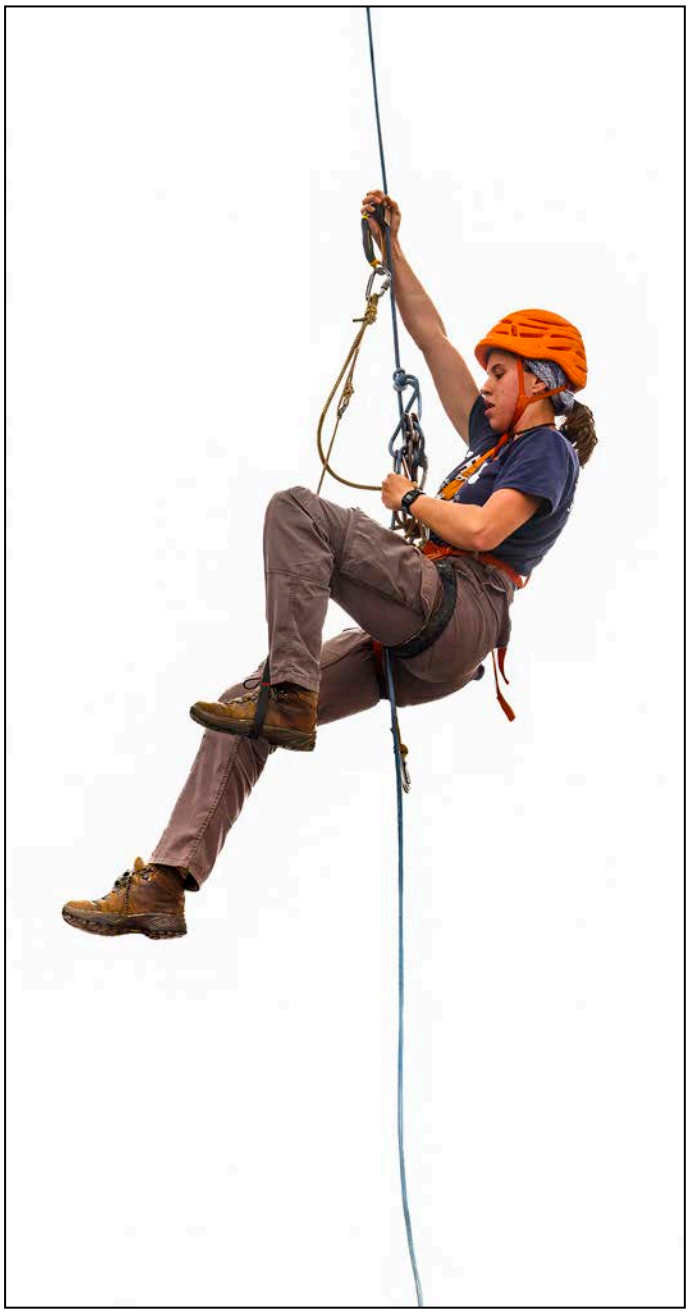


Photo: Chris Howes.



Photo: Chris Howes.



Photo: Chris Howes.



Photo: Natalie Fretwell.



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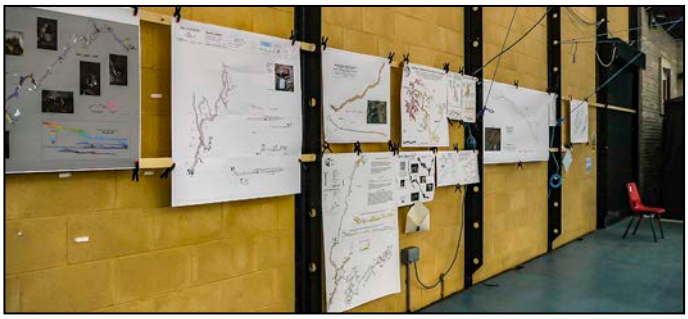


Photo: Natalie Fretwell



Photo: Natalie Fretwell



Photo: Natalie Fretwell

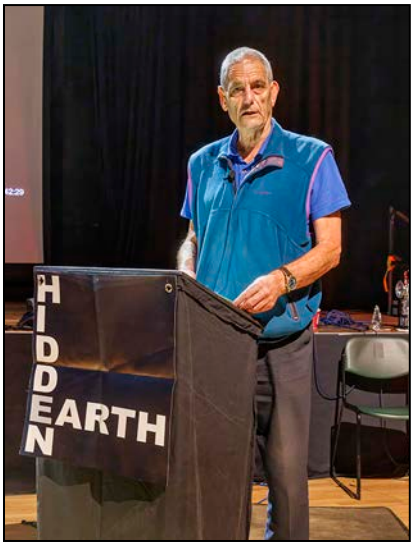


Photo: Chris Howes.



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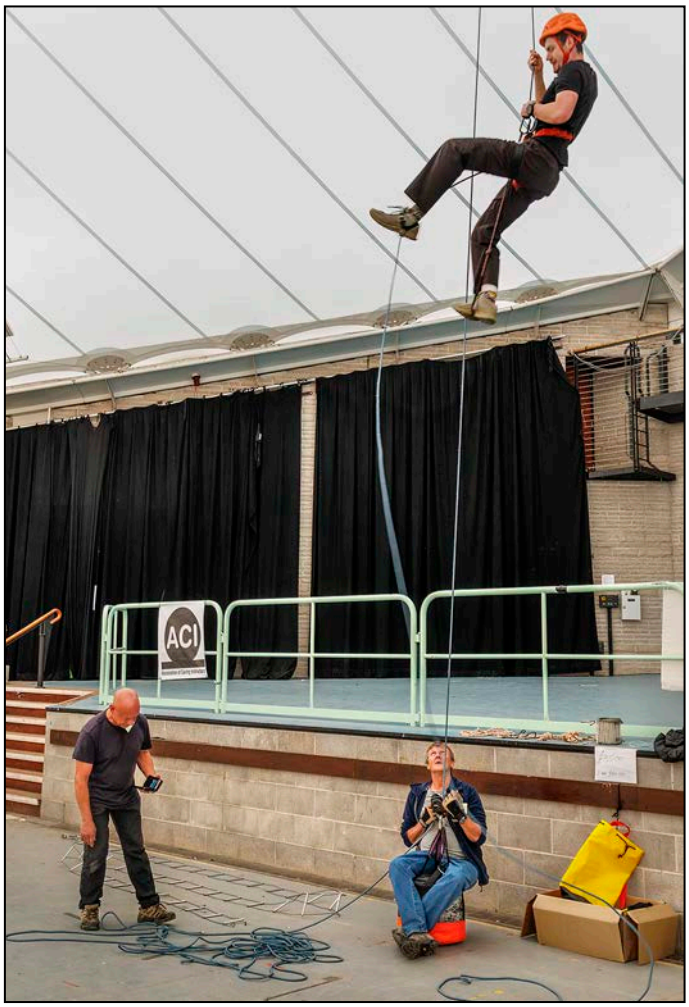


Photo: Chris Howes.



Photo: Natalie Fretwell



Photo: Chris Howes.

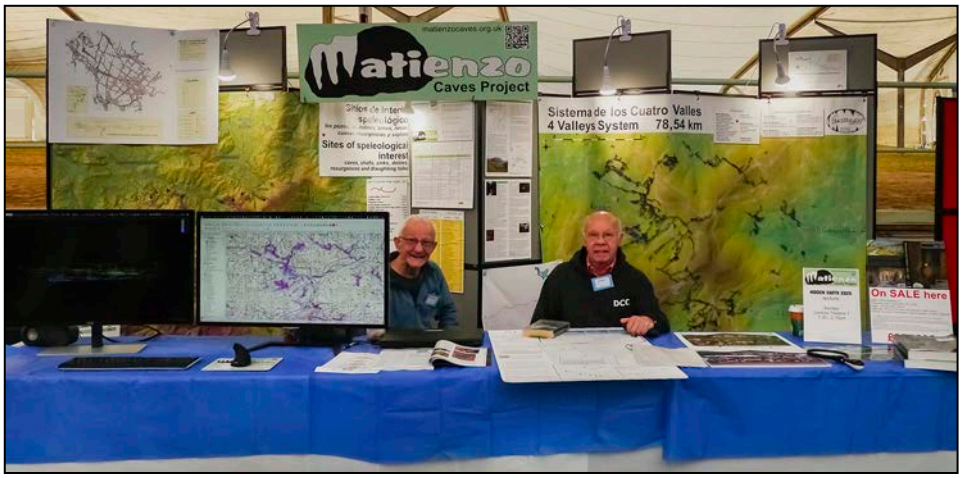


Photo: Natalie Fretwell

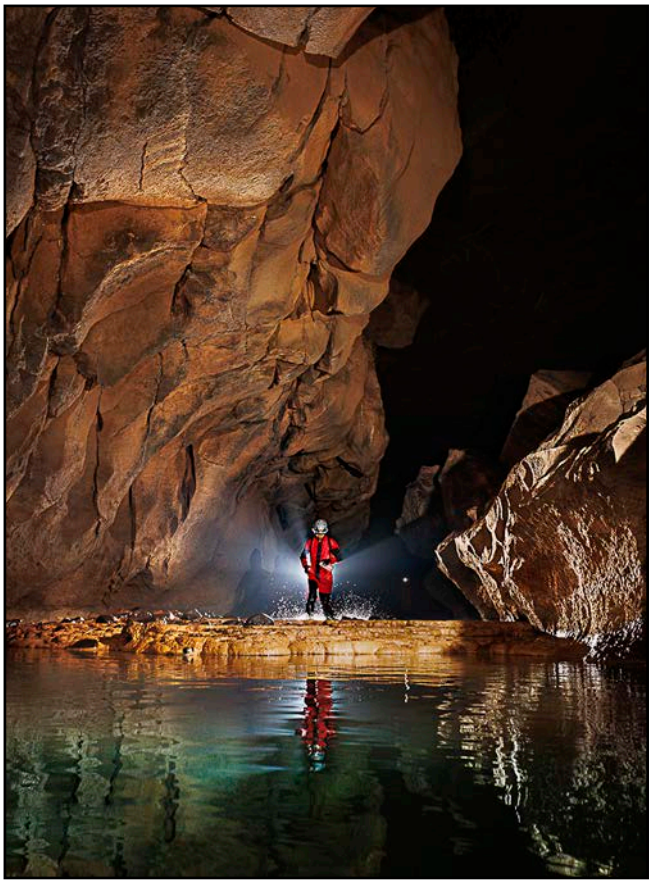
Selections from the Premier Trophy 2025 Portfolio: Bill Nix



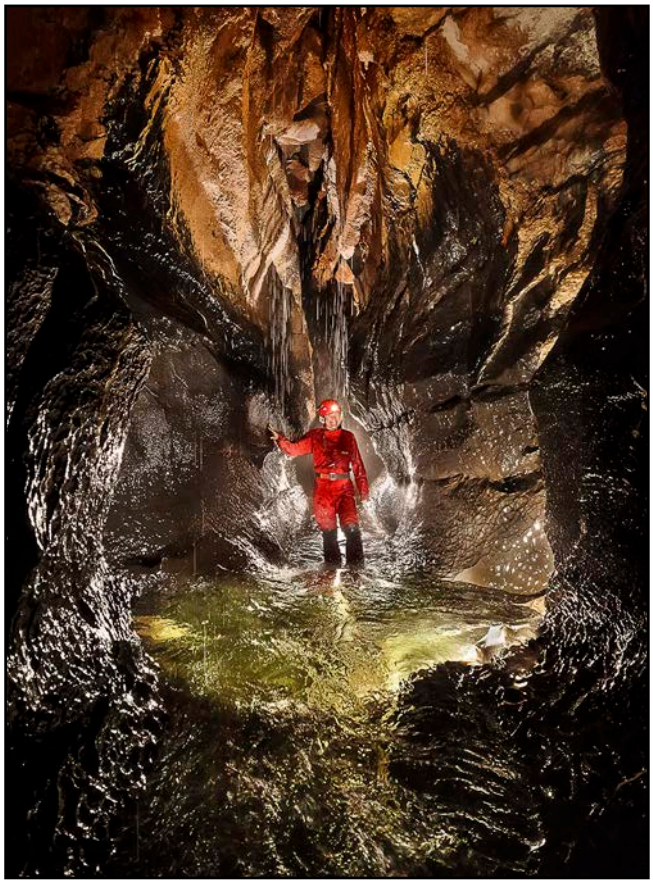
River Marino Vianello. Corchia



Ooops, I slipped

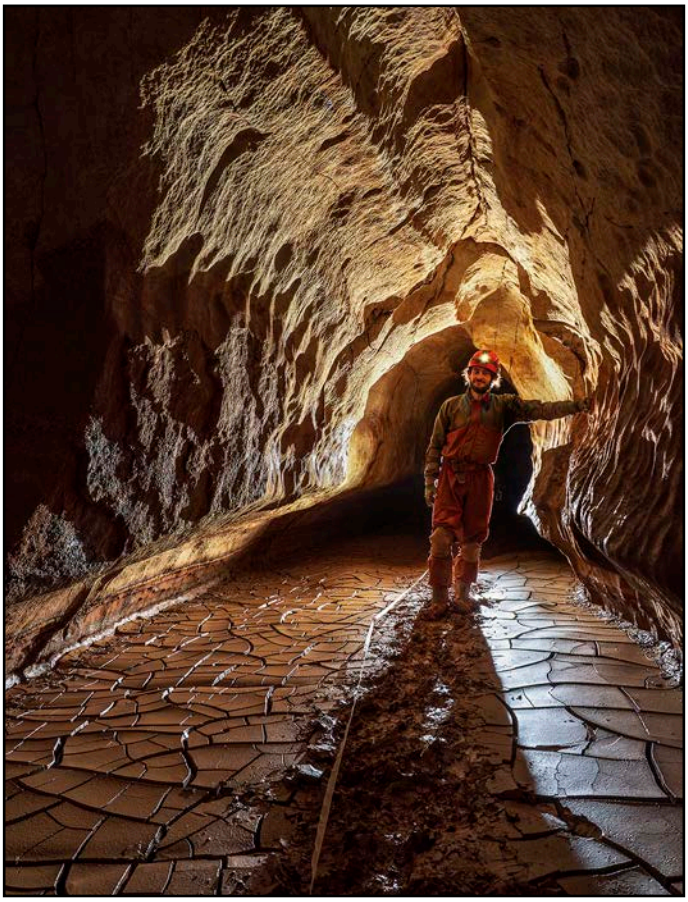


Lungchung in reflection

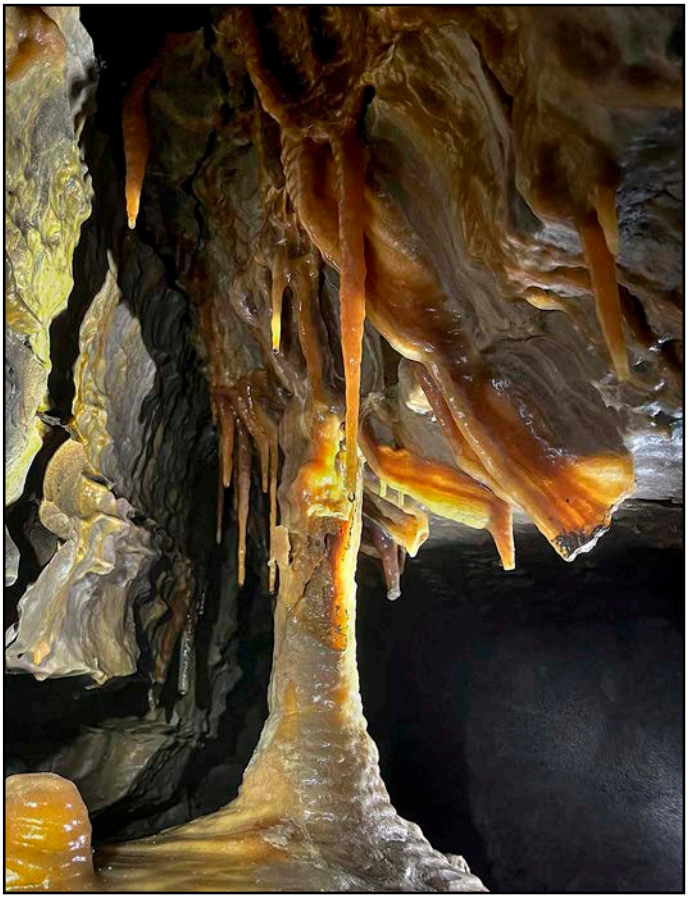


Don't fall in. Ogof Ffynnon Ddu 1, Streamway

Selections from the Salons, 2025



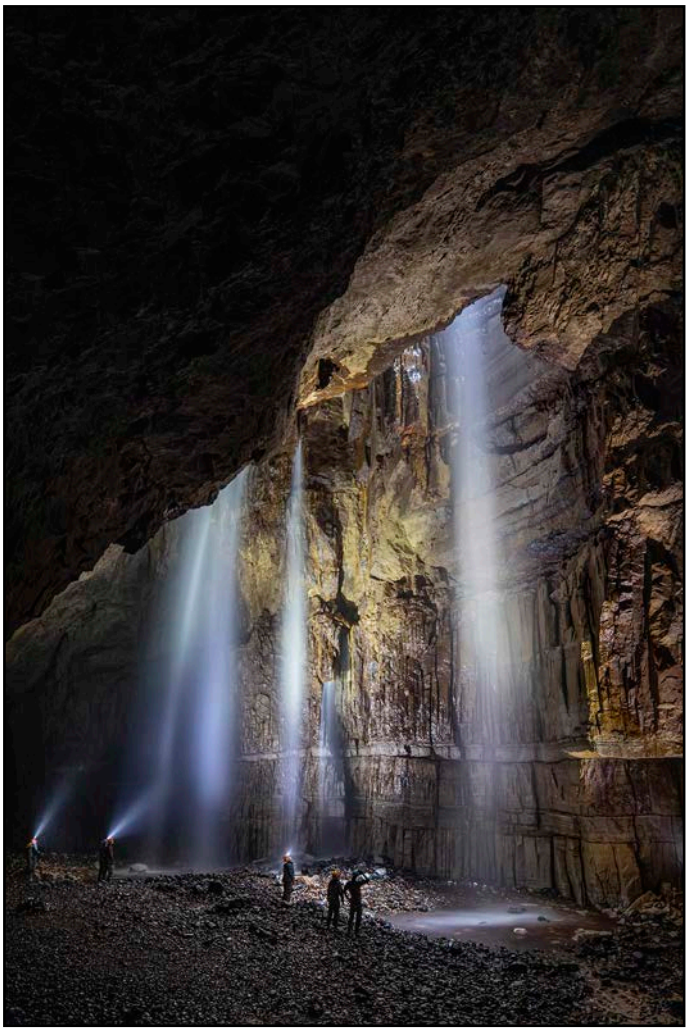
The Chocolate River, Redhouse Lane Swallet, Forest of Dean by Tiff Cooksley-Czajka (Merit - Digital)



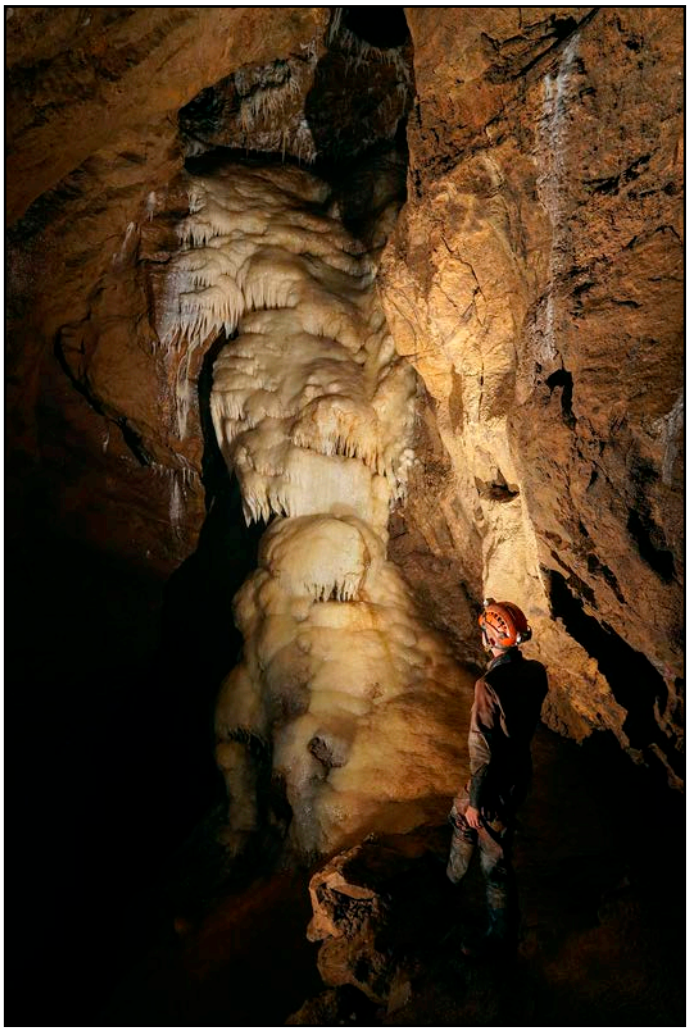
Formation in Cave of the Liar, Scotland Photo: Piper Cusmano.



Stone Horse Cave, Mulu by Chris Howes (Winner - Digital)



Gaping Gill's Main Shaft, illuminated only by the helmet lights of visiting cavers from ULSA (Leeds University) - Ane Appelt.



Flowstone formation in Moss Chamber, Peak Cavern - Michael Vereker (Winner, YP Digital)



Brazilian formations - Bartek Biela (Merit - Digital)



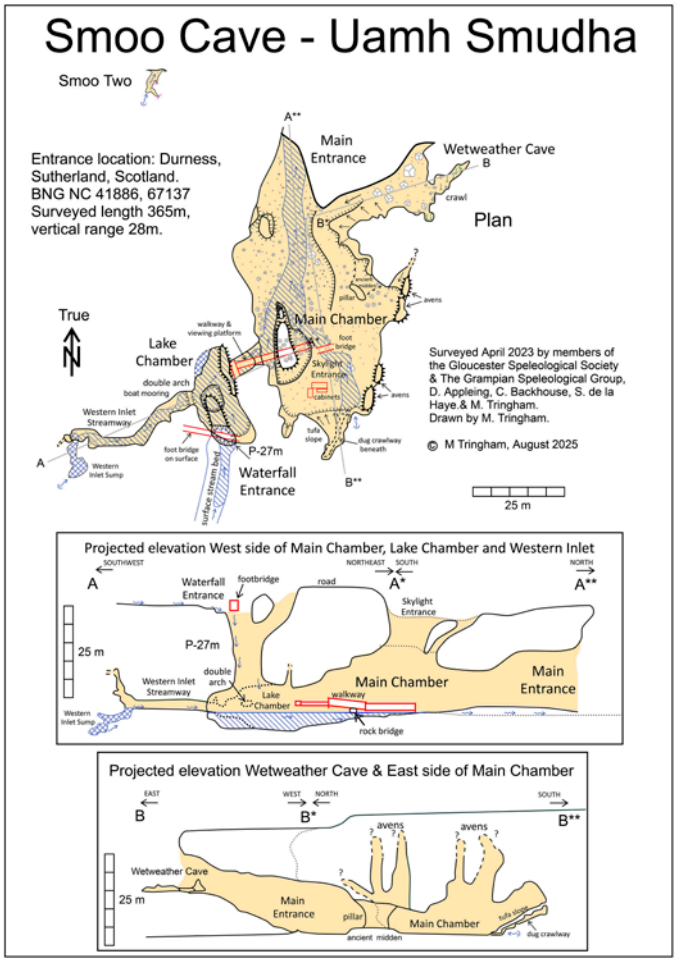




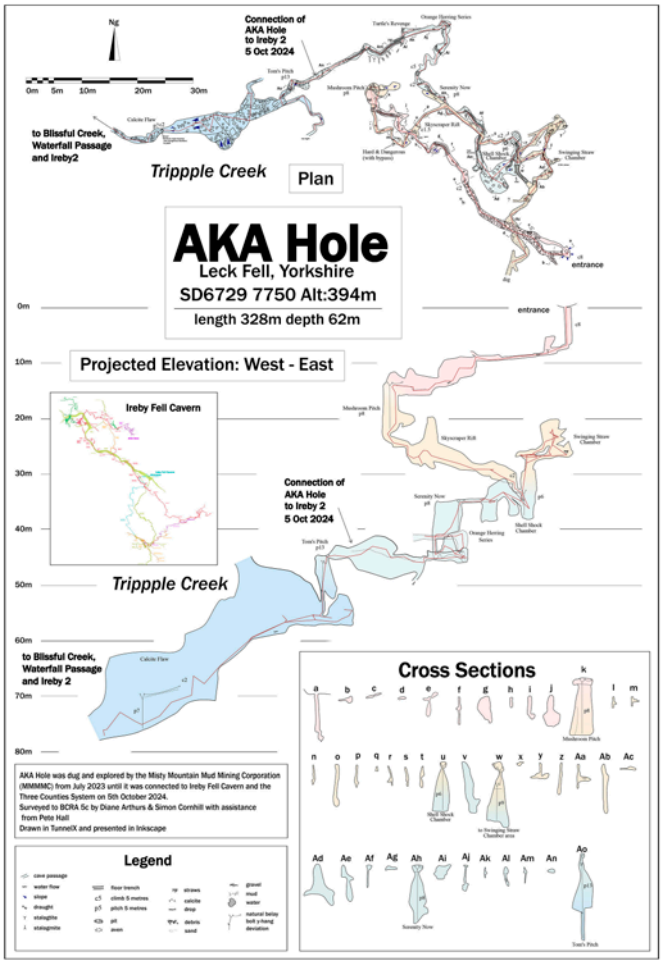
Above: ***Quarryman Self Portrait****, by Peter Burgess (Winner).*
Left: ***Ease Gill Open House*** *by Rachel Pajak (Merit).*
Below left: ***Cloud Chamber - DYO*** *by Anne Bell (Merit).*
Below: ***Untitled (acrylic)*** *by Vince Simmonds (Distinction).*

Art Salon Photos by Natalie Fretwell

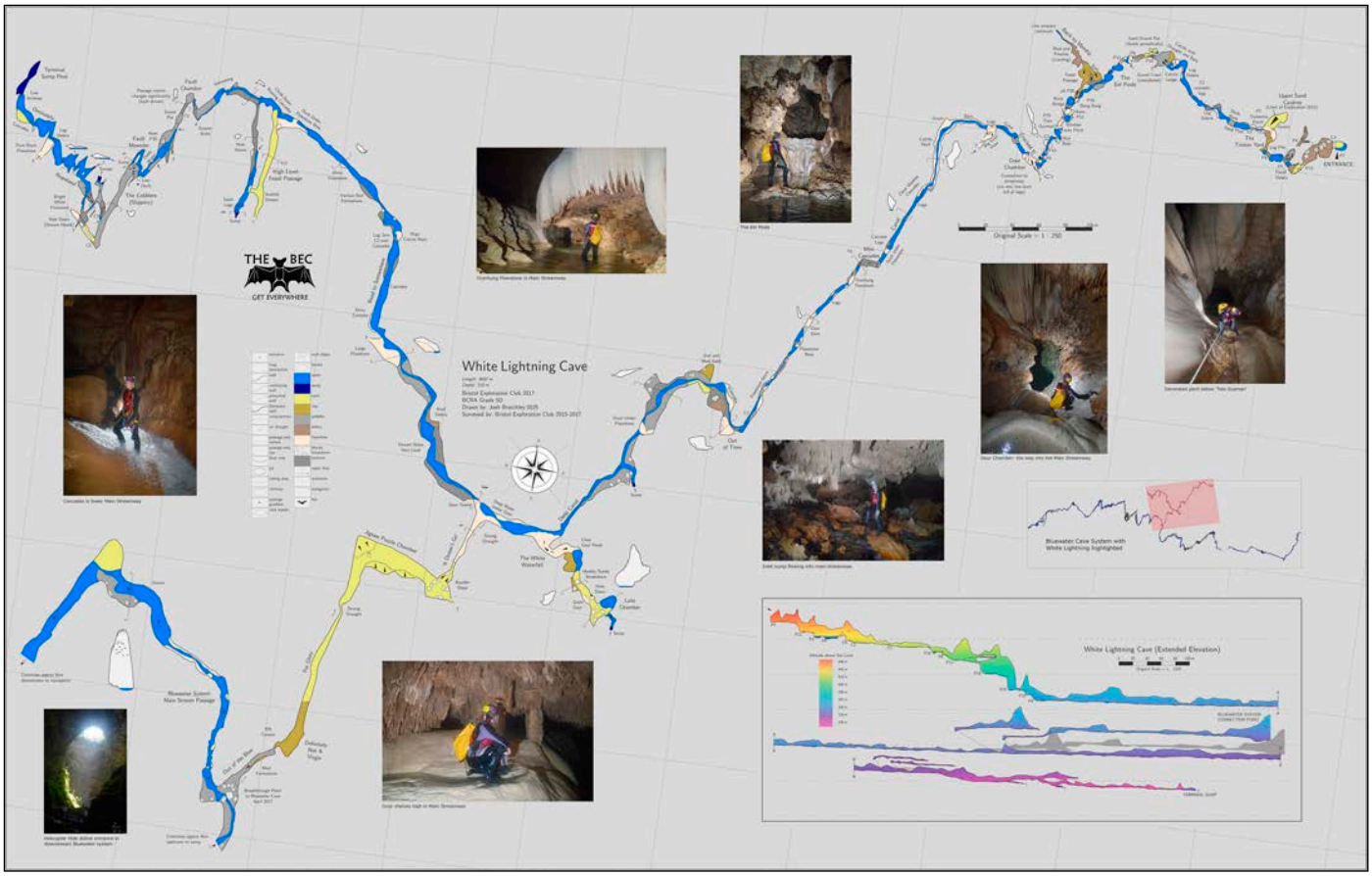




Winner in the Hidden Earth Survey Salon 'Judged Small Survey' of Smoo Cave, by Mark Tringham.



Distinction in the Survey Salon 'Judged Small Survey' of AKA Hole, by Diane Arthurs and Simon Cornhill.



Distinction in the Survey Salon 'Judged Large Survey' of White Lightning Cave, by Josh Bratchley.

Cave Science and Technology Research Fund (CSTRF)

The Cave Science and Technology Research Fund (CSTRF) assists the delivery of BCRA's Cave Science policy, by supporting new research by cavers and cave scientists. A primary objective of the fund is to promote the scholarly study of caves in order to further our understanding of the formation of caves, analyse the evidence that they contain and enhance the technologies employed to discover, enter and explore them.

The panel that administers CSTRF is motivated by a desire to increase awareness amongst the caving and wider scientific communities of the scientific importance of caves – and of the mutually beneficial synergy that can occur between exploration and science. The funding delivered by CSTRF makes a direct contribution to BCRA's mission to research, understand and protect caves and karst areas.

BCRA's Cave Science policy emphasises four major themes: *Speleogenesis* (including cave hydrogeology), *Archaeology and Palaeontology*, *Cave Biology* and *Technology for Cave Research*. In addition to these priorities, CSTRF encourages a broad multi-disciplinary range of cave and karst research, so that projects in other areas of research and scholarship outside those covered by the four principal themes are also eligible for funding.

BCRA allocates £6000 per annum to CSTRF, and with the size of individual awards averaging around £1000, the fund typically supports about five awards each year. In 2025 five new awards were made from CSTRF funds resulting in a total spend of £5445 for the year (see summaries below).

During 2025, projects assisted by previous grant funding from BCRA were published in the BCRA journal *Cave and Karst Science*. These included a report by Vince Simmonds on human remains from an early Neolithic rock shelter burial site at Kewstoke Road, Somerset (C&KS 52,2: 67-70), and Kang Xie and co-workers' article on speleothems from the west coast of Scotland (C&KS 52,3: 125-130).

Gina Moseley acknowledged the support of BCRA in an article on climate records in speleothems from North Greenland (*Nature Geoscience* 18: 1252–1258) and Thomas Hessleberg and Emily Brannigan acknowledged funding from BCRA in an article on prey capture in a cave orb web spider (Ethology 131,7: e13563).

Projects funded by CSTRF in 2025

Summaries of projects funded by CSTRF in 2025

Simmonds: Funding from BCRA is for radiocarbon dating of a specimen of brown bear (*Ursus arctos*) from a passage in Halloween Rift, a cave located near Wookey Hole in Somerset. The specimen is part of a faunal assemblage that includes bison and horse and may date to the last ice age.

Mullan: Online gazetteers providing details of human and animal bones discovered in British caves and rock-shelters were originally hosted by the University of Sheffield and are currently maintained on the University of Bristol Spelæological Society's website. The gazetteers, which are regularly revised and updated with additional discoveries, form a valuable resource for researchers and cave explorers. Funding from CSTRF will enable the gazetteers to be upgraded from flat text files to a fully searchable database, with additional functionality including map-based presentation of the data.

Verney: This project will collect sediment samples from six localities distributed through the Ogof Ffynnon Ddu cave system and will use infrared microscopy to determine the presence and amount of microplastics in the deposits. The identification of specific polymers will help to identify the sources of microplastic pollution and the study will provide a baseline for comparison with future monitoring studies.

Tilby: Funding from CSTRF will support an archaeological survey of caves in the Gunung Mulu and Niah Caves National Parks, to be undertaken in collaboration with workers from Sarawak Museum and the National Parks service. Previous speleological research in this region has focused mainly on geological, hydrological and biological questions and this project will help complement this emphasis by applying archaeological and palaeontological techniques to some of the lesser-explored cave sites.

Knight: Funding for this project will enable Lee Knight and his colleague Dieter Weber to undertake DNA sequencing of mitochondrial and nuclear genetic markers in about 100 specimens of niphargids (small freshwater crustaceans) collected from Britain and Ireland. The project forms part of a major phylogenetic study into the origins and evolution of Niphargus species across north-western Europe, including both glaciated and unglaciated regions.

Andrew Chamberlain, CSTRF co-ordinator 2025.

Applicant	Project	Type	Amount
Vince Simmonds	Halloween Rift: faunal assemblage including Ursus	A	£400
Graham Mullan	Upgrading the cave archaeology gazetteers	A	£1,500
Percy Verney	Microplastics in OFD cave sediments	S	£1,845
Emily Tilby	Mulu Caves 2025: archaeology and zooarchaeology	A	£800*
Lee Knight	Delimiting British, Irish & European Niphargus species	B	£900
Type: A = Archaeology/Palaeontology, B = Biology, S = Speleogenesis/Hydrogeology, T = Technology			
*Project start postponed due to unforeseen circumstances			

CSTRF Project Photos (see previous page)



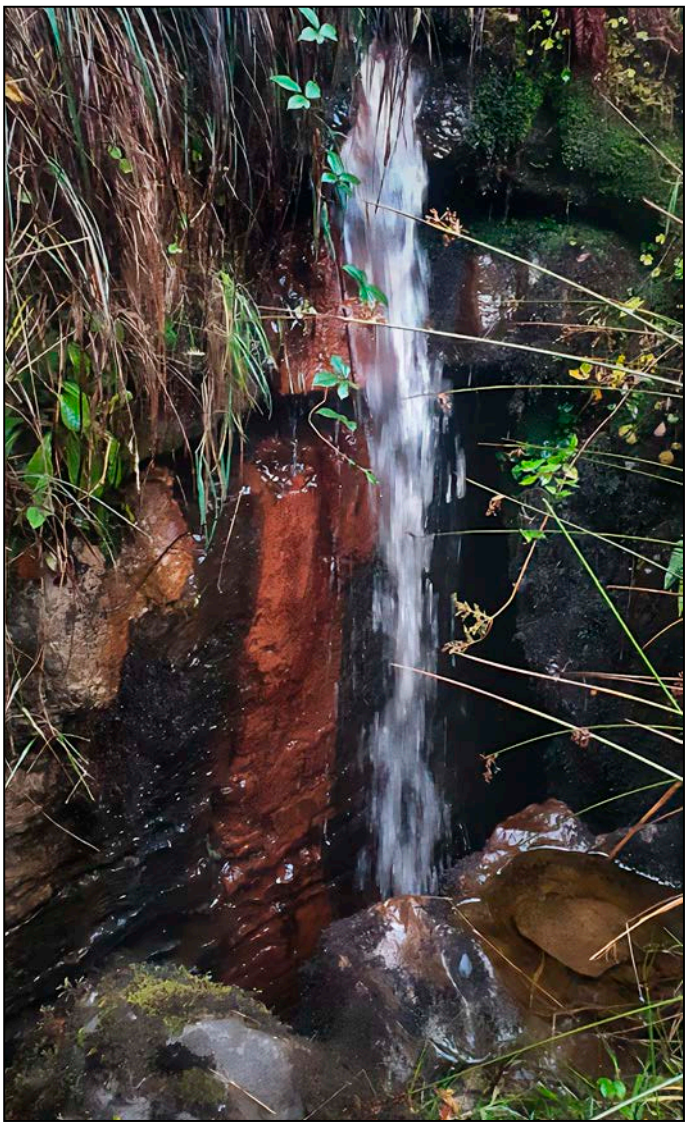
A selection of faunal remains recovered from excavations in Hallowe'en Rift, Mendip Hills, Somerset carried out during 2025; all are from brown bear, Ursus arctos. Top left: metapodial; bottom left: partial phalanx and sesamoid; centre and far right: upper canines and fragment of maxilla. Some of the faunal remains have been refitted. Photo: Vince Simmonds.



Pools in the main passage of Ogof Pebyll. One of the sampling sites from which specimens were obtained of the few Welsh cavernicolous populations of Niphargus aquilex. Photo: Lee Knight.



One of the sampling sites in Ogof Ffynnon Ddu. Sampling for microplastics was undertaken in ten locations across the system, around Judge and Trident, and samples were taken to the U.K. Centre for Ecology and Hydrology lab for processing. Plastics were found across all ten sites, although quantity varied greatly by site. Photo: Percy Verney.



Screenshot (entrance of Cullaun 2) from the Irish Caves Database (https://irishcaves.ubss.org.uk/). The database was completely revamped and brought up to date with the help of a grant from the BCRA's CSTRF. Photo: Linda Wilson.

 © British Cave Research Association 2026

36th BCRA Cave Science Symposium

Saturday 11th October 2025
Hosted jointly at the University of Bristol, School of Geographical Sciences

Introduction

The 36th Annual Cave Science Symposium was hosted by Dave Richards, Fiona Whitaker, Steve Hobbs and Linda Wilson at the School of Geographical Sciences, Bristol University, on Saturday 11th October 2025, and was followed on the Sunday by three field trips which are reported below.

The keynote speaker at the Symposium was Danielle Schreve, and abstracts of the oral and poster presentations are presented below.

Abstracts of Oral Symposium Presentations

The application of high-resolution U–Th dating techniques to Assynt speleothems: initial results

Tim Lawson[1], Tim Atkinson[2] and Sebastian Breitenbach[3]

1. Department of Geosciences, University of Aberdeen, Aberdeen, AB24 3FX, UK.
2. Department of Earth Sciences, University College London, London, WC1E 6BT, UK.
3. Department of Earth and Environmental Sciences, Northumbria University, Newcastle-Upon-Tyne, NE1 8ST, UK.

Collection of speleothem samples from caves in Assynt, NW Scotland, in the 1980s and 1990s allowed dating by the uranium-thorium disequilibrium method using the now-outdated alpha spectrometry (AS) technique. 53 dates were obtained in this way, allowing a broad understanding of the chronology of fluctuating glacial-interglacial climatic phases over the last 200,000 years. An initial phase of dating in 1981–82 at SURRC (now SUERC), East Kilbride, produced a suite of dates that – at that time – fitted with the accepted chronology of the Late Pleistocene glacial history of Britain. However, there has been increasing awareness of a growing conflict between the current chronology of the build-up and decay of the northern edge of the last ice sheet based on extensive dating of land surfaces and deposits using TCN and OSL techniques. This has prompted a reappraisal of some of the Assynt specimens using modern, high-resolution dating methods. This has highlighted certain shortcomings in the initial methodology and cast doubt on the veracity of this initial phase of dating. Failed subsequent attempts to replicate the older dates using carefully controlled AS methods have underlined these concerns.

Modern dating methods have the great advantages of dating discrete speleothem growth layers with very small standard errors compared to the 'bulk samples' required for dating 30–40 years ago. We now have 32 high-resolution, MC-IPC-MS dates from Assynt speleothems as part of a wider project hoping to reveal a detailed chronology of all periods when external conditions were conducive to speleothem growth during at least the last 125,000 years in this key area on the NW edge of maritime Europe. In this talk we will concentrate on what this initial batch of dates reveals about the timing of ice sheet initiation, growth and decay. We will offer a brief reassessment of an earlier analysis of the



Flowstone sample UEA901120-9 from Uamh an Claonaite, which recently yielded a U/Th date of 63,235 years BP from near its surface. Photo; Tim Lawson.

geomorphic evolution of the Allt nan Uamh valley (Hebdon et al., 1997) now that we doubt the reliability of the three oldest dates obtained during the 1980s. A brief mention will also be made of the wider project which intends to look at various proxy indices locked up in the speleothem growth layers and what these may show about changing climatic conditions during the various phases of speleothem growth.

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Annually-laminated stalagmite in Northwest Yucatán, Mexico, precisely dates and quantifies rainy-season droughts during the Maya civilization decline

Daniel H James[1], Stacy A Carolin[1,2], Sebastian F M Breitenbach[3], Julie A Hoggarth[4], Fernanda Lases-Hernández[5], Erin A Endsley[6], Jason H Curtis[7], Christina D Gallup[6], Susan Milbrath[8], John Nicolson[1], James Rolfe[1], Ola Kwiecien[3], Christopher J Ottley[9], Alexander A Iveson[9], James U L Baldini[9], Mark Brenner[7], Gideon M Henderson[2], David A Hodell[1]

1. Godwin Laboratory for Palaeoclimate Research, Department of Earth Sciences, University of Cambridge, Cambridge, UK.
2. Department of Earth Sciences, University of Oxford, Oxford, UK.
3. Department of Geography and Environmental Sciences, Northumbria University, Newcastle upon Tyne, UK.
4. Department of Anthropology, Baylor University, Waco, TX, USA.
5. Facultad de Química, Universidad Nacional Autónoma de México, Mérida, Yucatán, Mexico.
6. Swenson College of Science and Engineering, University of Minnesota Duluth, Duluth, MN, USA.
7. Department of Geological Sciences and Land Use and Environmental Change Institute, University of Florida, Gainesville, FL, USA.
8. Florida Museum of Natural History, University of Florida, Gainesville, FL, USA.
9. Department of Earth Sciences, University of Durham, Durham, UK.

The Maya civilization of Mesoamerica flourished during the Classic Period (ca. 250 to 1000 CE) and is noted for its monumental architecture, hieroglyphic writing, and advanced mathematics, astronomy, and calendar system. During the Terminal Classic Period (ca. 800 to 1000 CE), the Maya civilization declined dramatically. Population centres shifted to the northern lowlands of the Yucatán peninsula (Mexico) where they underwent a series of boom-bust cycles before eventual depopulation. Several explanations have been put forward to explain this cultural transformation, including natural (deforestation, erosion, soil loss, earthquakes, hurricanes, climate change, disease, insect pests, overpopulation) and socio-political factors (civil unrest, inter-site warfare, invasion from outside cultures, etc.). Regional climate proxy records suggest multiple prolonged drought episodes during the Terminal Classic, however these records are sparse and some contain large chronological uncertainties and poor temporal resolution. To further advance our understanding of climate variability in Mesoamerica during this transition period on a local scale, here I will present a stalagmite from northern Yucatán. The stalagmite is exceptionally laminated through the Terminal Classic period, allowing our group – research led by Daniel H. James – to construct a seasonal climate proxy record based on calcite oxygen isotope variability with ± 6 year age uncertainty. Rainfall interpretation of the stalagmite oxygen isotope record is supported by modern rain and drip water monitoring, as well as a replicated lower-resolution stalagmite oxygen isotope record from the same cave. Despite uncertainties in archaeological chronologies, results suggest political activity at major northern Maya sites, including Chichén Itzá and Uxmal, declined at different times during this period of frequent droughts, implying differential cultural responses to climate stress. This work was recently published in Science Advances (James et al., 2025).

Reference

James, D H et al., 2025. Classic Maya response to multiyear seasonal droughts in Northwest Yucatán, Mexico. Science Advances, Vol.11, Issue 33, eadw7661. [https://doi.org/10.1126/sciadv.adw766]

●

A journey into caves along the northern boundary of the Sahara: beautiful caves, speleothems and research into past rainfall

Samuel Hollowood[1], Hamish Couper[1], Julia Barrott[1,2], Stacy Carolin[3], Nick Barton[3], Abdeljalil Bouzouggar[4], Gideon Henderson[1] and Chris Day[1]

1. Department of Earth Sciences, University of Oxford, Oxford, OX1 3AN, UK.
2. Stockholm Environment Institute, Oxford, OX2 7JT, UK.
3. School of Archaeology, University of Oxford, Oxford, OX1 3TG, UK.
4. Institut National des Sciences de l'Archéologie et du Patrimoine, Rabat-Instituts, Rabat, Morocco.

There is abundant evidence of wetter conditions in the Sahara during the early- to mid-Holocene, but a paucity of high-resolution spatial and temporal rainfall reconstructions, which has impeded the robust understanding of climate and archaeology. North of 28°N there is a particular lack of rainfall records, which limits testing of the processes controlling climate change in the sub-tropics. Cave speleothem records from locations that are arid to hyper-arid in the modern-day are especially helpful. The chronology alone of speleothem growth from these locations informs us of the timing of when climate was wetter in the past. We use additional measurements, for example of oxygen isotopes, that help us to assess the sources of past rainfall. We will present results of stalagmite records from inland, north-west Sahara – south of the Atlas Mountains – which demonstrate peak in increased rainfall between 8.7–4.3 kyr BP (Couper et al., 2025). We propose that much of this additional rainfall is caused by 'tropical-plumes' (plumes of rainfall originating from convecting moisture in the tropics). This rainfall supported a significant increase in the region's population during the Neolithic, as suggested by the combined presence of speleothem growth and rich archaeological artefacts in a region that is sparsely populated under modern-day desert conditions. Improved habitability and increased recharge to rivers flowing south through the Sahara will have facilitated connections, during a key period in the development of land use and animal production.

Reference

Couper, H O and eight others, 2025. Evidence for the role of tropical plumes in driving mid-Holocene north-west Sahara rainfall. Earth and Planetary Science Letters, Vol.652, 119195. [https://doi.org/10.1016/j.epsl.2024.119195]

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Creag nan Uamh (Reindeer Cave) from the valley floor. The famous 'bone caves' can be seen at the junction between the cliff base and the vegetated talus slope below. Photo: Ivan Young.

From Caves to Conservation: the making of the modern fauna in Britain

Danielle Schreve

School of Geographical Sciences, University of Bristol, Bristol, UK, and Department of Geography, Royal Holloway University of London Egham, Surrey, UK.

Zooarchaeological and fossil collections from caves have traditionally supported research and into a diversity of topics, from palaeoenvironmental reconstruction to the interpretation of early human subsistence practices. However, an area of investigation that has been so far less commonly explored concerns the information that these collections can shed on past climate change and biodiversity for future conservation purposes.

Data from Quaternary palaeoecological studies are increasingly applied to modern conservation challenges via the emerging field of conservation palaeobiology, a new and integrated approach that draws on fossil and historical records to inform the conservation, management and restoration of species, communities and ecosystems beyond the limited time frame of modern ecological observations. This presentation will illustrate ongoing work at the site of Gully Cave in Somerset, a key archive for our understanding of faunal responses to abrupt climate change over the last 70,000 years, before reviewing the potential of collections such as this to provide critical new information for guiding nature restoration.

●

A 75,000-y-old Scandinavian Arctic cave deposit reveals past faunal diversity and paleoenvironment

Samuel J Walker[1,2], Aurélie Boilard[1], Stein-Erik Lauritzen[1,3,4,5], Trond Lødøen[6], Sanne Boessenkool[1]

1. Centre for Ecological and Evolutionary Synthesis (CEES), Department of Biosciences, University of Oslo, Oslo, Norway.
2. Department of Archaeology & Anthropology, Bournemouth University, UK.
3. Department of Earth Science, Bjerknes Centre for Climate Research, University of Bergen, Bergen, Norway
4. Department of Earth Sciences, University of Bergen, Bergen, Norway
5. Centre for Early Sapiens Behaviour (SapienCE), University of Bergen, Bergen, Norway
6. University Museum of Bergen, Department of Cultural History, University of Bergen, Bergen, Norway.

Northern Europe experienced extreme topographical, environmental and climatic changes during the last interglacial-glacial cycle. High-latitude, fossil faunal records are, however, almost non-existent due to glacial erosion and removal of sediments by flushing meltwater from the glaciers that covered extensive parts of the northern region. The effects of the dramatic Quaternary climatic changes on animal distributions in Fennoscandia therefore remain largely unresolved. The Storsteinhola cave system (68°50′N) in Kjøpsvik, northern Norway, is an exception, with one of the conduits of the cave, known as Arne Qvamgrotta, containing a Pleistocene dated bone horizon. We exploit the exceptional opportunity of this deposit for the comparative, interdisciplinary analyses of a high-latitude faunal record from the Last Glacial period.

The excavations at Arne Qvamgrotta identified a clear sub-fossil horizon, which after extensive dating (including 14C, OSL, 230Th/234U and phylogenetic dating) placing the bones in interstadial MIS 5a. To date we have very little knowledge of the fauna from this interstadial other than occasional spot finds. We combine morphological identification with ancient DNA bulk-bone metabarcoding to maximise taxonomic identification of the highly fragmented bone material. With this multi-method approach we identify over 45 different taxa, including a diverse range of mammals (e.g., Ursus maritimus and Balaena mysticetus), birds (e.g., Somateria spectabilis and Uria aalge) and fish (e.g., Sebastes marinus and Salvelinus sp.). Furthermore, we identify the first collared lemming (Dicrostonyx torquatus) in Fennoscandia. Mitogenome analyses of U. Maritimus, D. Torquatus and V. lagopus identify extinct lineages which attest to a lack of habitat tracking and the absence of a local refugium during the subsequent fully glaciated periods. Our results highlight the power of a multi-method approach to broaden taxonomic identification, especially of fragmentary material. The Arne Qvamgrotta excavations and analysis highlight the power of multi-method approaches and the potential of past data to understand risks to Arctic fauna in the face of current warming in the region.

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A new bio-chronology and taphonomic assessment of the mammalian faunal remains from Reindeer Cave, Assynt

Alicia Sanz-Royo[1,2], Tim Lawson[1], Andrew C Kitchener[2], and Kate Britton[1].

1. Department of Archaeology, University of Aberdeen, St. Mary's, Elphinstone Road, Aberdeen, Scotland.
2. National Museums Scotland, Chambers Street, Edinburgh, UK.

Reindeer Cave (Creag nan Uamh, Assynt) is one of the few sites where faunal remains that pre- and post- date the Last Glacial Maximum (LGM) have been found in Scotland, an area that was fully glaciated by the last ice sheet. Excavated in the 1920s, the radiocarbon dating, taxonomic and taphonomic study of these remains has great potential to inform on palaeoecological and palaeoenvironmental conditions of MIS 2 and 3 in north-west Europe, and regional glacial dynamics. However, some previously-obtained radiocarbon dates from the site appear to contest the latest models of regional glacial advance and retreat in the area. Furthermore, some early dates in the 2m shaft connecting the inner and outer chambers are not consistent with historically-recorded stratigraphic relationships.

Here we report on our new analyses of the faunal remains from the shaft and the outer chamber of Reindeer Cave. Our results indicate reindeer and bears predominate, although new examples of hare, wild pig, and small carnivores have been tentatively identified. The remains appear to have been accumulated mainly via natural means with minor carnivore modifications, although differences between bear bones and reindeer antlers are evident. New radiocarbon dating on bones and antlers from the shaft align with recorded excavation depths and suggest that deposition began before ~45 ka cal BP. This was followed by at least two further phases of deposition, including a final event pre-LGM at ~34 ka cal BP. The earliest post-LGM dates in the outer chamber place bears back in the region ~14.5 ka BP, with later Holocene dates from the outer cave suggesting some post-depositional disturbance of materials. Further dating and multidisciplinary analyses of materials from the outer chamber will enhance our understanding of ecosystem dynamics into the Late Glacial and early Holocene, and the potential for human presence in the region.

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Caving with Caustic Orphans

Mike Rogerson[1], John Gunn[2], Adam Hartland[3], Sebastian Breitenbach[1] and staff at the Buxton Civic Association.

1. Department of Geography and Environmental Sciences, Northumbria University, Newcastle upon Tyne, UK.
2. School of Geography, Earth and Environmental Sciences, University of Birmingham, Birmingham, UK.
3. Te Aka Mātuatua, School of Science, University of Waikato, Kirikiriroa, Hamilton, 3216, Aotearoa New Zealand.

Hyperalkaline leachate is created when rain or surface water penetrates piles of waste from lime making, iron or steel making, aluminium or chromium refining or ash from combustion processes. This bleach-like (caustic) leachate can flow into surface water systems, causing significant ecological harm. A curious side effect when the source is rich in calcium (normally from lime, steel or iron making) is that the solution (which is dominantly $Ca(OH)_2(aq)$) reacts rapidly with $CO_2(g)$ in the air, depositing large amounts of calcite ($CaCO_3(s)$). Some of these deposits can be truly dramatic, with the best examples being at Brook Bottom near Buxton and near Consett. However, such rapid and voluminous mineral deposition causes additional problems for aquatic life, chokes stream beds and drainage culverts and can cause severe flooding. As the majority of caustic waste sites in Britain affected by this kind of leachate were made by companies no longer in operation, the "polluter pays" principle cannot be utilised to remediate or manage the site, which essentially becomes an 'orphan'.

Although neglected compared to acid mine drainage, research into understanding the surface impact and remediation of caustic orphan sites is developing. However, little is known about the behaviour of these leachates in the subsurface. How they affect water quality, how reactive species like $Ca_2^+(aq)$ and $OH^-(aq)$ behave during subsurface transport and the fate of ecologically harmful materials such as Al or Cr carried in them, are all poorly known.



Stalagmite that has grown beneath a hyperalkaline drip on the tourist path through Poole's Cavern. Photo: Sam Wilks, Poole's Cavern.

Caves provide a unique window to resolve those problems, especially as lime production requires the same thick, pure limestones as caves do, increasing their co-occurrence. By great fortune, one cave receiving caustic leachate from an overlying orphan site is Poole's Cavern, where the British Cave Science Centre has been established. With the assistance of staff at the showcave, we have been able to produce three years of nearly continuous monthly average drip-rate measurements and nine months of continuous pH and conductivity measurements at 15-minute intervals for one drip that is hyperalkaline, and one that has never been observed to show caustic characteristics. In addition we are in the process of producing daily water chemistry measurements. From these we can now show that the leachate production process interacts with surface weather, so that in normal conditions leachate only enters the cave in the winter. High rain events also cause changes in infiltration, showing the close coupling of groundwater contamination and surface water surplus. Because the drips are growing stalagmites, we are exploiting three samples that grew between 1927 and 2025 to reveal the long story of how this waste, which accumulated from the 17th to the early 19th centuries when the hillside above Poole's Cavern was dotted with independently operated lime kilns, is slowly being removed by weathering.

●

Conditioning of flood pulses produced by intense or prolonged rainfall events during transfer through phreatic and vadose conduits

John Gunn.

School of Geography, Earth and Environmental Sciences, University of Birmingham, Birmingham, UK.

Springs in Castleton, Derbyshire, UK, drain a mixed allogenic-autogenic karst catchment of c. 13.5 km^2 within which there are some 30km of explored conduit (caves) and a much greater length of smaller tributary conduits. As part of a long-term study, hydraulic head is measured at five underground sites and water depth is measured at three springs fed by the conduits, and in a river fed by the springs. To accurately represent the hydrological complexity



The combined discharge from the Castleton springs flowing over the Goosehill Bridge weir during Storm Babet. Photo: John Gunn.

measurements are made at short intervals (2–4 minutes). In October 2023 Storm Babet brought heavy and persistent rain (80–100mm) to the English Peak District and there was widespread surface and underground flooding, including property in Castleton. As expected, the conduits fed by sinking streams from the allogenic catchment responded rapidly to recharge but there was also a rapid response from the autogenic catchment where there are no surface streams and only a small number of dolines. Underground there were large increases in hydraulic head (up to 35m) that resulted in two types of flow switching. Firstly, the increased head at the input end of one phreatic conduit system removed an underwater permeability barrier in a relatively low elevation conduit resulting in a dramatic increase in flow out of the conduit and a corresponding decrease in flow from a linked higher elevation conduit that had dominated before the storm. Secondly, increased head upstream of two conduits with limited hydraulic conductivity allowed water to spill over into conduits that were inactive prior to the storm. The flow switching is less evident in the spring hydrographs, and hence the flood pulse in the spring-fed river, than it is underground and this is thought to be at least in part a result of conditioning by the final section of phreas which also: (1) softens the complex signals measured underground and (2) produces a longer but lower magnitude pulse than would be expected in a surface stream. It is suggested that as intense/prolonged rainfall events become more common, changes within conduits may make the spring response (and hence flood risk) harder to predict.

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Strange stories from Stump Cross Caverns – is the answer from below?

Phil Murphy

School of Earth and Environment, University of Leeds, Leeds, UK.

The Stump Cross Caverns cave system is a network of more than 6 kilometres of passages positioned beneath the interfluve between Wharfedale and Nidderdale, the two most easterly glaciated valleys of the Yorkshire Dales. It is formed in folded and faulted limestone strata situated in the Craven Fault Zone, the transition zone between the Askrigg Block high and the Craven Basin. The form of the cave system is unlike that of most caves in the Yorkshire Dales karst because it is formed within relatively steeply dipping limestone beds (15–30°). The cave consists of large tubular passages connected by smaller passages or rifts, and has a distinctive multi-level maze-like plan. The highest (showcave) level contains large volumes of clastic sediment overlain by extensive speleothem deposits. 68 U-series dates have been obtained from the site, making it one of the most comprehensively dated sites in the UK. It also a significant Pleistocene vertebrate palaeontological site. Despite this intensive study, little consideration has been given to the origins of the cave system. A re-evaluation of the cave morphology on a range of scales, hydrological setting and a review of the previous studies undertaken in and around the cave system suggest a possible origin, at least in part, as a result of hypogenic karstification.

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Cave invertebrate assemblage monitoring in Ogof Ffynnon Ddu (OFD) and Ogof Draenen

Lee Knight

Freshwater Ecologist, 1 The Linhay, North Kenwood Farm, Oxton, Devon, EX6 8EX, UK

The designation of caves as SSSIs has historically relied on geological and palaeontological features and their importance as bat roosts, with their ecology often being neglected. To address this shortcoming Natural Resources Wales initiated base-line surveys of the cave invertebrate assemblages within two major cave systems, to trial the methods required at the study sites and other potential

designated cave sites across Wales. Both caves have been the subject of biological investigations in the past, allowing the results of the survey, undertaken in summer 2023 and winter 2024, to be critically evaluated against historical data.

The survey encompassed five stream sites and four lentic habitats in each cave, sampled by netting. Terrestrial invertebrate assemblages were investigated within the threshold zone of the cave entrances and at four sites within the deep cave environment, the former by manual searching and the latter using a combination of three methods, manual searching, the placement of scouring pads as artificial refugia, and baited pitfall trapping.

The survey in OFD recorded a total of 84 invertebrate taxa, including 30 previously recorded from the cave. This now makes the total number of invertebrate taxa known from the cave 123, including 9 troglobionts, 36 eutroglophiles and 7 subtroglophiles.

The survey in Draenen recorded a total of 84 invertebrate taxa, including 34 previously recorded from the cave. This now makes the total number of invertebrate taxa documented from the cave 124, including 12 troglobionts, 21 eutroglophiles and 7 subtroglophiles.

The results of the base-line survey, coupled with an examination of the historical data have enabled the compilation of a set of target invertebrate species and communities that form the basis of conservation objectives for both caves, against which future condition monitoring can be assessed.

●

Fifty years of Mulu cave science

Andrew R Farrant.

British Geological Survey, Keyworth, Nottingham, NG12 5GG, UK.

Back in April 2025, the Royal Geographical Society celebrated the (almost) 50th anniversary of the 1978 RGS expedition to the Gunung Mulu National Park. The main focus of this RGS expedition was forest ecosystems. Over a period of 15 months, 115 scientists spent 10,000 days-equivalent in this wonderfully rich tropical forest. The research involved 50 separate projects within five programmes: forest ecology and nutrient cycling, geomorphology/hydrology and cave surveying, botanical and zoological inventories, vegetation surveys and management plan studies.

The cave science during the 1978 expedition comprised cave surveying and limited geomorphological and hydrological studies. In the intervening 47 years, however, there has been comparatively little research done on the rainforest ecosystems in the National Park, but a huge amount has been done in the caves: Mulu science has literally gone underground. This talk will summarize a variety of work that has yielded insights into the age and formation of the caves; past climates based on the chronology of speleothem growth; nutrient cycling and ecosystems within the caves; and the role of bats and birds in making the caves bigger. What discoveries will the next 50 years bring?

●

Fishing for answers at Fishmonger's Swallet

David Hardwick[1,2], Adelle Bricking[3], Linda Wilson[1,4].



Christos Pennos examining directed phytokarst in the entrance of Clearwater Cave, Gunung Mulu National Park, Sarawak. First identified on the 1978 Royal Geographical Society Expedition to Gunung Mulu, directed phytokarst consists of rock spikes or cones oriented towards the incident sunlight. It is attributed to the action of photosynthetic organisms such as blue-green algae, mosses, and lichens. The shape of the features varies, depending on the angle of the incident light, with cones forming when light is perpendicular, and ribs forming when it is parallel to the rock surface. Photo: Andy Farrant.

1. University of Bristol Spelaeological Society, Bristol, UK.
2. Hades Caving Club.
3. National Museum Cardiff, Cardiff, UK.
4. School of Geographical Sciences, University of Bristol, Bristol, UK.

Fishmonger's Swallet in Alveston, South Gloucestershire, just a few miles north of Bristol, is a small stream-sink that appears to have had a relatively constrained use as an ossuary, as demonstrated by radiocarbon dates on human and animal (dog) bones from the site that suggest a period of deposition in the late Iron Age. This talk will present a brief overview of the site and the insights it has provided into the health of the individuals concerned and the post-mortem treatment of their remains and will also touch on the latest excavations at the site and plans for future work on the wealth of material it continues to provide.

●

Stalagmite-based palaeoclimate reconstruction from West and Central African karst regions: Insights from the 2023–2024 National Geographic Society Speleological Expeditions [POSTER]

Ilesanmi, F.A.[1*], Baldini, L.M.[2], Egesi, N[3], Ndongo, A[4], Mvoubou, M[4], Agbebia, M[5], Retonda-Kondja, S[4], Kwankam, F.N.[6], Bisse, S.B.[7], Baldini, J.U.L.[2], Bokanda, E.E.[8], Okon, E.E. [9], Rogerson, M[10], Odelugo, L[2], Ait Brahim, Y[11], Taylor, G[1], and Akinlabi, E. T.[12]

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3. Department of Geology, University of Port Harcourt, Port Harcourt, Nigeria.
4. Département de Géologie, Université des Sciences et Techniques de Masuku, Franceville, Gabon.
5. Nigerian Geological Survey Agency, Abuja, Nigeria.
6. National Higher Polytechnic Institute, University of Bamenda, Bambili, Cameroon.
7. School of Geology and Mining Engineering, University



Brighid Black, preparing to exit Bone Idle Chamber in Fishmonger's Swallet, with the dig site in the background. Taken on the post-BCRA Symposium field trip led by David Hardwick and Adelle Bricking. Photo: David Cooke.

of Ngaoundere, Meiganga, Cameroon.
8. Department of Geology, University of Buea, Buea, Cameroon.
9. Department of Geology, University of Calabar, Calabar, Nigeria.
10. Department of Geography and Environmental Sciences, Northumbria University, Newcastle, UK.
11. International Water Research Institute, Mohammed VI Polytechnic University, Benguerir, Morocco.
12. Department of Mechanical and Construction Engineering, Northumbria University, Newcastle, UK.

The karst regions of West and Central Africa remain among the least explored globally, with limited palaeoclimate records hindering understanding of long-term climate variability in the tropics. Despite extensive limestone terrains, stalagmite-based climate reconstructions are notably absent due to challenges, including inaccessibility, dense vegetation, limited funding, and insufficient collaboration between regional and international research institutions. This study presents results from the 2023–2024 National Geographic Society-funded speleological expeditions across these karst landscapes, aimed at documenting cave systems and collecting speleothems for palaeoclimate reconstruction. Explorations led to the successful sampling of stalagmites exclusively in Gabon, where 15 specimens underwent preliminary analysis, including Uranium-Thorium (U–Th) dating and FTIR analysis; isotopic analysis is ongoing at Northumbria University, and lamina counts on two specimens provide initial chronological constraints.

The selected Gabonese caves contained well-preserved speleothems, offering high-resolution geochemical archives of past climate variability. This research underscores the untapped potential of Central and West African karst systems as key palaeoclimate archives, while highlighting spatial heterogeneity in stalagmite suitability. The findings contribute to the growing body of tropical African palaeoclimate research and support improved calibration and validation of climate models. Integration of these records into modelling frameworks will enhance reconstructions of regional hydroclimatic variability and inform resilience strategies in the face of ongoing global climate change.

●

A palaeoclimate record for the Western Mediterranean from Gibraltar speleothems

Dirk Hoffmann[1], Dave Mattey[2], Meighan Boyd[2], Tim Atkinson[3] and "Team Gib"4.

1. Georg-August-Universität Göttingen Wilhelmsplatz 1 (Aula) 37073 Göttingen, Germany.
2. Royal Holloway University of London, Egham, UK.
3 University College London, Gower Street, London, UK.
4. Jean-Paul Latin, Richard Durrell, Mark Ainsworth, GONNHS, Upper Rock Nature Reserve, PO Box 843, Gibraltar.

A twenty-year effort of cave monitoring, geochemical analysis and dating of speleothems from caves in Gibraltar has culminated in completion of an extremely detailed and well-dated "Reference Record" of West Mediterranean palaeoclimate covering the past two glacial-interglacial cycles. This poster presents the record of stable isotopes of oxygen and briefly compares it with another long record from the Eastern Mediterranean, highlighting the changing east-west gradients in oxygen isotopes as climate changed through the last glacial cycle. Together with that record and the ice core records from Greenland, the extremely well-dated Gibraltar record forms a "reference framework" within which to fit shorter speleothem records and elucidate the patterns of climate change across Europe during the last 200,000 years.

●

North–south gradients of oxygen isotopes in precipitation between Greenland and Gibraltar during the Last Glacial

Tim Atkinson[1,5], Meighan Boyd[2], Dirk Hoffmann[3], Wolfgang Müller[4], David Mattey[2].

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2. Royal Holloway University of London, Egham, UK
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4. Institute of Geosciences, Goethe-Universität, Frankfurt am Main, Germany

The changing climate during the Last Glacial is recorded in the oxygen isotope composition of ice (meteoric precipitation) in long cores drilled through the Greenland ice sheet. The glacial period as a whole is punctuated by shorter episodes termed Dansgaard–Oeschger (or DO) Events, each lasting a few thousand years, during which δ18O (a measure of the ratio of the heavy oxygen isotope concentration in the ice) first increased sharply, then declined slowly. Local temperatures followed the same trends. Speleothem records suggest that DO events affected climate all over the northern hemisphere, but unlike ice they do not directly record the oxygen isotopes in precipitation, but present a mixed signal affected by oxygen isotopes in drip water (reflecting local rain), cave temperature, and chemical kinetic factors during the formation of calcite. Our record in Gibraltar shows a remarkably close, parallel trend to Greenland. In this poster we present a first attempt to decode and separate the mixed signals and to isolate the δ18O of palaeo-rainfall in the Western Mediterranean. The results suggest that it varied very little between the warm and cold phases of DO Events, whereas much larger changes occurred in Greenland. However a 1‰ uncertainty remains

in the absolute value of δ18O in Gibraltar's palaeo-rainfall because of chemical kinetic factors. The main part of δ18O variation in Gibraltar speleothem during DO Events is due to changes in local temperature, measured independently via geochemical records of sea surface temperatures encoded in sediments in the Alboran Sea, adjacent to Gibraltar.

●

Spatio-temporal dynamics of speleothem growth and glaciation in the British Isles

Sina Panitz[1,2], Michael Rogerson[1], Jack Longman[1], Nick Scroxton[3], Tim J Lawson[4], Tim C Atkinson[5], Vasile Ersek[1], James Baldini[6], Lisa Baldini[2], Stuart Umbo[1], Mahjoor A Lone[1], Gideon M Henderson[7], and Sebastian FM Breitenbach[1].

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2. School of Health and Life Sciences, Teesside University, Middlesbrough, UK.
3. Department of Geography, Irish Climate Analysis and Research Units, Maynooth University, Maynooth, Ireland.
4. Department of Geosciences, University of Aberdeen, Aberdeen, UK.
5. Department of Earth Sciences, University College London, London, UK.
6. Department of Earth Sciences, Durham University, Durham, UK.
7. Department of Earth Sciences, University of Oxford, Oxford, UK.

Reconstructing the spatio-temporal dynamics of glaciations and permafrost relies largely on surface deposits and is therefore a challenge for every glacial period older than the last due to erosion. Consequently, glaciations and permafrost remain poorly constrained worldwide before ca. 30ka. Since speleothems (carbonate cave deposits) form from drip water and generally indicate the absence of an ice sheet and permafrost, we evaluate how speleothem growth phases defined by U-series dates align with past glacial–interglacial cycles. Further, we make the first systematic comparison of the spatial distribution of speleothem dates with independent reconstructions of the history of the British–Irish Ice Sheet (BIIS) to test how well geomorphological ice reconstructions are replicated in the cave record. The frequency distribution of 1020 U-series dates based on three different dating methods between 300 and 5ka shows statistically significant periods of speleothem growth during the last interglacial and several interstadials during the last glacial. A pronounced decline in speleothem growth coincides with the Last Glacial Maximum before broad reactivation during deglaciation and into the Holocene.

Spatio-temporal patterns in speleothem growth between 31 and 15ka agree well with the surface-deposit-based reconstruction of the last BIIS. In data-rich regions, such as northern England, ice dynamics are well replicated in the cave record, which provides additional evidence about the spatio-temporal distribution of permafrost dynamics. Beyond the Last Glacial Maximum, the distribution of speleothem dates across the British Isles offers the opportunity to improve chronological constraints on past ice sheet variability, with evidence for a highly dynamic Scottish ice sheet during the last glacial. The results provide independent evidence of ice distribution complementary to studies of surface geomorphology and geology, and the potential to extend reconstructions into permafrost and earlier glacial cycles. Whilst undersampling is currently the main limitation for speleothem-based ice and permafrost reconstruction even in relatively well-sampled parts of the British Isles, we show that speleothem dates obtained using modern mass spectrometry techniques reveal a higher spatio-temporal resolution of glacial–interglacial cycles and glacial extent than previously possible. Further study of leads and lags in speleothem growth compared to surface deposition may provide new insights into landscape-scale dynamics during ice sheet growth and retreat.

●

Current research on groundwater habitats in Scotland and recent records of several stygobitic crustacea

Lee Knight

Freshwater Ecologist, 1 The Linhay, North Kenwood Farm, Oxton, Devon, EX6 8EX, UK

Current research on stygobitic fauna (i.e living exclusively in groundwater settings including caves, aquifers) in Scotland. Two ostracod species are presented, new to Britain and only currently known from two Scottish sites, Smoo Cave and a spring catch pit on the Isle of Lismore. Also revealed is a recent record of the syncarid Antrobathynella stammeri at just its second Scottish location – Jeannie Barrie's Cave in the Pentland Hills south of Edinburgh.

BCRA Science Symposium Field Trips 12/10/2025

On the day after the Cave Science Meeting there was a choice of three underground field trips, probably the greatest number ever offered on a Science Meeting weekend! Brief reports on each trip have been provided by the leaders.

Pen Park Hole (report by Wayne Starsmore, Cave Warden).

Attendees: Hollie London, Alice Turton, Stefan Doerr and Wayne Starsmore.

A bright Sunday morning saw the four attendees gather on the roadside in the large Southmead housing estate in Bristol. Caving gear was quickly donned, and the party headed for a clump of trees in a local park. Within the trees, a secure steel trapdoor leads down to Pen Park Hole. This is an ancient cave, believed to be of hydrothermal origin. The cave features in the first ever published cave survey, Collins (1683), and is home to the Pen Park prawn (*Niphargus kochianus*).

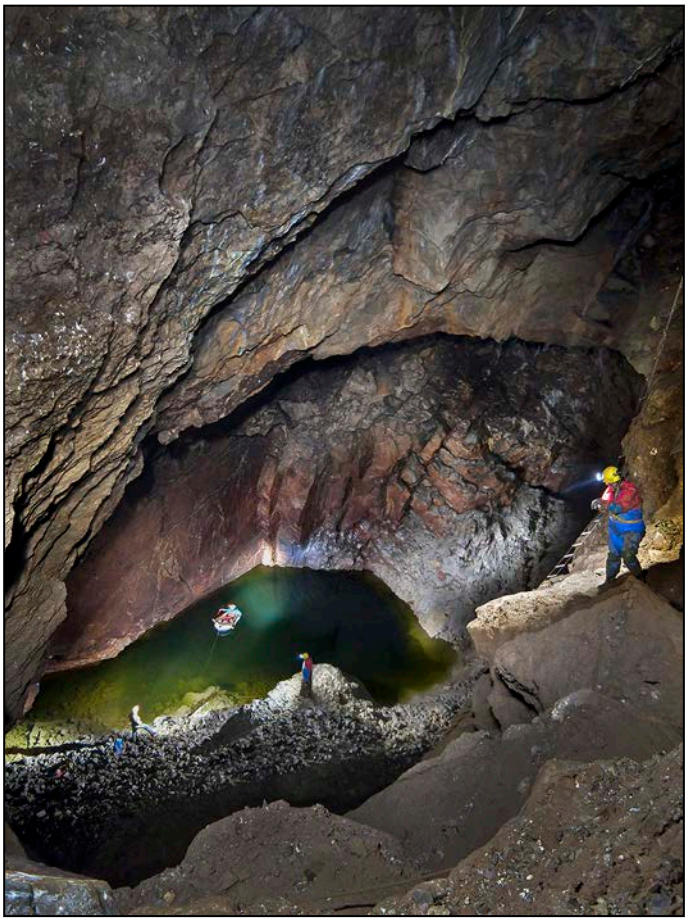
The party made their way through the entrance galleries, noting the abundant dog-tooth spar that coats the walls, ceiling and floor, forming a layer up to 15 cm thick. After a few tricky constrictions, they arrived at a balcony high on the wall of the main chamber. This inspiring chamber is some 60 m high and 30 m wide. A ladder and lifeline were duly rigged, and two of the party (Hollie London and Stefan Doerr) descended to the lake at the bottom of the chamber, some 30m below. The level of the lake was very low on this visit. The air also seemed a little fresher than normal, with



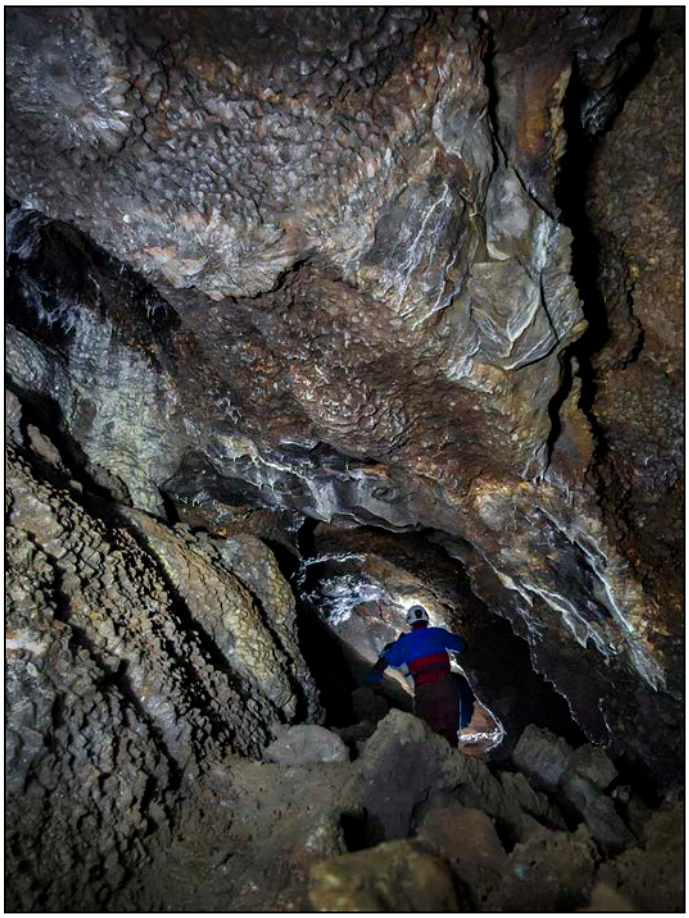
Pen Park Hole ladder pitch. Photo: Steve Sharp.



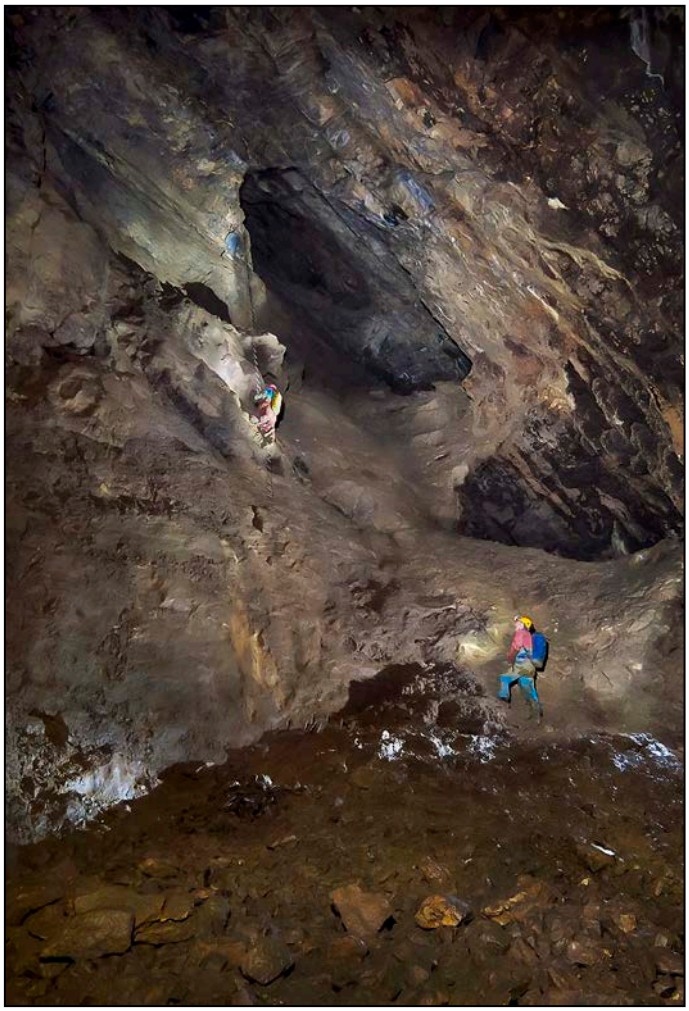
Pen Park Hole lake. Photo: Steve Sharp.



Pen Park Hole, Main Chamber. Photo: Steve Sharp.



Descending the Pen Park Hole entrance series. Photo: Steve Sharp.

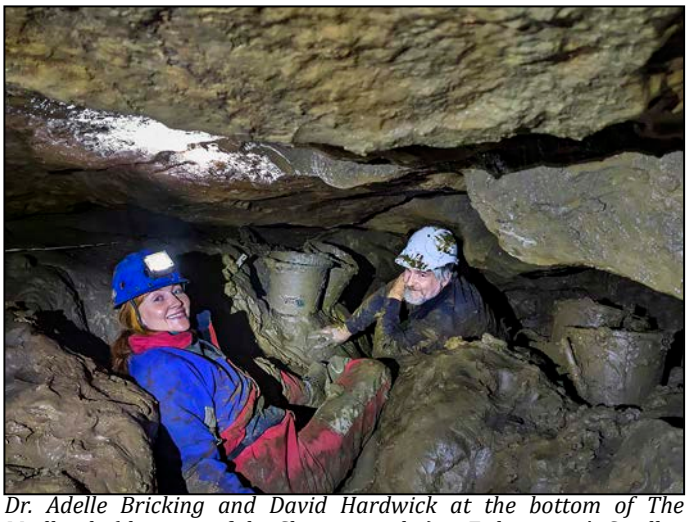


Pen Park Hole, ladder climb. Photo: Steve Sharp.

the CO_2 level estimated to be around 1%. The party exited the cave at 13:00.

Fishmonger's Swallet (report by Linda Wilson)
David Hardwick and Dr Adelle Bricking led Jim Bates, Brighid Black and David Cooke on a trip into Fishmonger's Swallet, South Gloucestershire. David explained the history of exploration and the geology of the site, and Adelle provided an interpretation of the various archaeological finds from this interesting and important Iron Age site, with its large assemblage of human material, as well as other faunal remains and some pottery fragments.

GB Cave (report by Andy Farrant)
This proved to be the most popular choice, with ten people signed up, so to comply with the Charterhouse Caving Company Ltd. rules, the group was split into two parties of five. The two groups briefly met up in the Gorge, so that all could participate in a discussion on the geomorphology by Andy Farrant. The trip was notable because it was attended by five of the ten elected members of the 2025 BCRA Council, including the Chairman, Secretary and Treasurer.



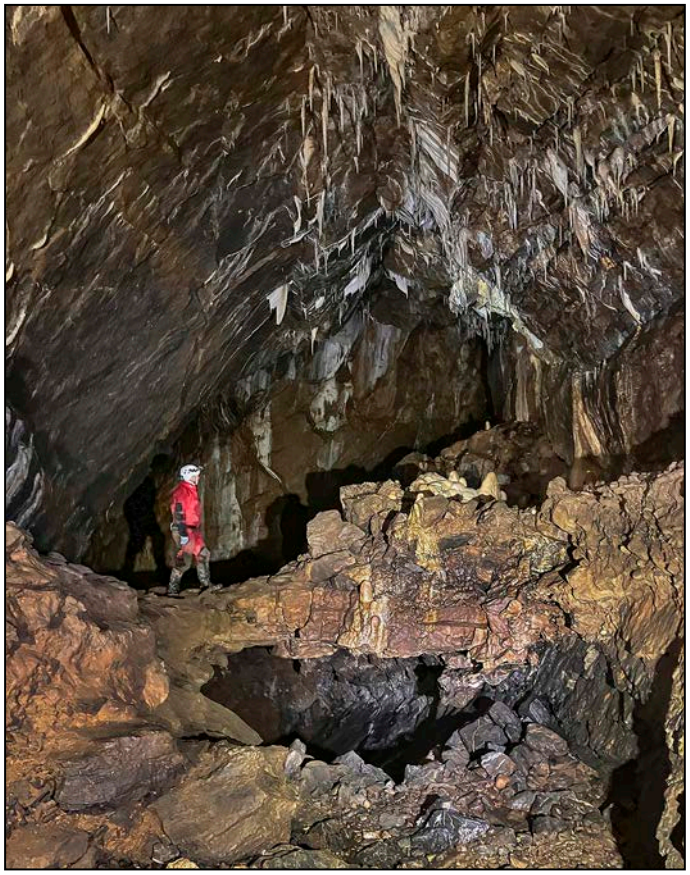
Dr. Adelle Bricking and David Hardwick at the bottom of The Mudlands (the start of the Clearwater dig) in Fishmonger's Swallet. Photo: David Cooke.



Finds recovered from Bone Idle chamber during the trip. Photo: David Cooke.



Group photo in Hardwick Hall, Fishmonger's Swallet. L to R: Brighid Black, David Hardwick, Jim Bates and Dr. Adelle Bricking. Photo: David Cooke.



Dave Shearsmith at The Bridge in GB Cave. Photo: Andy Farrant.



Members of BCRA Council in GB Cave. L-R: Dave Shearsmith, Mike Rogerson, John Gunn, Andy Farrant, Jo White. Photo: John Gunn.

BCRA Cave Science Seminars, 2025

Editor's note: many of the images presented here do not have captions provided, and so are labelled appropriate to the talk they accompany where necessary.

January 13th 2025: Microbial Nitrogen Cycling and Cave Passage Modification in Mulu National Park

With: J. Max Koether, Department of Geology, University of Alabama

Research into how caves form increasingly reveals the critical role of microbes in promoting chemical erosion through the production of acidic by-products. The caves of Gunung Mulu National Park in Sarawak, Malaysia offer a setting to explore a novel nitrogen-driven method of cave passage modification and enlargement. These caves include some of the world's largest and longest cave systems, including Clearwater Cave, which extends over 250 kilometres, and many of these caves feature unusual formations, such as massive ceiling scallops and corroded speleothems. We suggest that these distinctive features result from dissolution caused by microbial activity.

Microbial activity within the nitrogen-rich guano from birds and bats in the caves generates ammonia gas. This ammonia adheres to moisture on cave walls, where microbes recapture the ammonia and metabolize it, producing nitric acid as a by-product, and leading to the chemical dissolution of the rock. Using several analytical techniques, both in the field and in the lab, we propose that nitrogen-driven dissolution is a common process in tropical caves, and that this mechanism may play a significant role in enlarging cave passages after their initial formation.

February 10th 2025: Sulfuric Acid Speleogenesis: how can we recognize it and what can it teach us?

With: Jo De Waele, Professor, Dept. of Biological, Geological, and Environmental Sci., University of Bologna

Although sulphuric acid caves (SAS Caves) have been known of for over two centuries (Socquet described a SAS cave in Aix-les-Bains in 1801), these caves were considered as "geological oddities". They rank among the "hypogene" caves, and are important for the understanding of void formation not directly connected to present-day meteorology and surface morphology (e.g., hydrocarbon reservoirs, Mississippi valley type Pb-Zn ore deposits). Since the discovery of Lechuguilla Cave in New Mexico and Movile Cave in Romania (both in 1986), speleological and karstological research has intensified, and many more SAS caves have been discovered and recognized.

Today over 90 SAS cave occurrences have been reported around the world, and their number is increasing steadily as cavers have started to recognize their typical morphologies and by-products. This talk, prepared in collaboration with Ilenia Maria D'Angeli, will show the distribution of SAS caves in the world, the different typologies, their unique morphology and by-products, their role in understanding landscape evolution, and their intriguing microbiology and biology.

●



Image for January 13th seminar on Microbial Nitrogen Cycling (left). Photo: J. Max Koether.

March 10th 2025: The Underground Mistakes of My Career. Lessons learned from Maaras Cave, Greece

With: Christos Pennos, Aristotle University of Thessaloniki, School of Geology, Thessaloniki, Greece

In this talk, I will present data collected from Maaras Cave over the past seven years, focusing primarily on hydrogeology and geomorphology. The Maaras Cave system is located along the northwestern margin of the Aggitis River basin. It contains an active fluvial system fed by a closed karstic basin, the Kato Nevrokopi polje, to the northwest. The cave is formed within the marbles of the Rhodope Massif and exhibits a distinct morphological pattern. It lacks closed loops and follows a hierarchical structure, where lower-order tributaries merge into higher-order passages. The system consists of two main tributaries, an eastern and a western branch—that converge into a single conduit flowing toward the spring a typical branchwork cave following Palmer's classification.

●

April 14th 2025: Palaeontological Perspectives on Caving in Thailand

With: Spyridoula Pappa, Senior Curator of Fossil Mammals, Natural History Museum



Image for February 10th seminar on SAS caves (left). Shpella Avulit, Albania. Photo: Orlando Lacarbonara.



Image for February 10th seminar on Maaras Cave (above). Photo: Christos Pennos.

If you want to know more about caves and fossil mammal remains from Mae Hong Son Province, in north-western Thailand, then join me for this talk, where I am going to share everything from my most recent research fieldwork in Thailand, in January 2024.

One of the most interesting and important sites that I visited was Tham Lod rock shelter, where I sampled teeth from Eld's deer. Tham Lod is a magnificent and famous cave, and a well-stratified archaeological site, where more than 100,000 archaeological items were unearthed during previous excavations. I and my NERC DTP PhD student Laura Hemmingham have had the opportunity to collect samples of over 200 fossil deer teeth, excavated from several Thailand caves and open sites.

Through the Eld's deer project, we studied the diet of Pleistocene deer in relation to climate using the methods of dental wear analysis (DWA), mesowear and species distribution models. My research focuses on palaeoecology of the Quaternary, and I am analysing tooth material to understand what these animals ate during the Ice Age and how they responded to environmental and ecological changes.

I started caving in 2002, and have participated in multiple caving expeditions with the Hellenic Speleological Society and with speleologists from Vienna University. I completed my undergraduate degree in Geology, and my Masters degree in Palaeontology, in Greece. My PhD in Palaeontology was from Royal Holloway University of London. I moved to London in 2010, and since September 2015 I have been working as a curator in the Natural History Museum (NHMUK). I am responsible for fossil mammals (over 350,000 specimens from around the world). During this talk I will be also presenting tales and projects that I had the opportunity to work on from other European and UK cave sites.

●

Limestone, dirt and iron: using cave magnets to understand the past

With: Bethany Fox, Senior Lecturer, Dept. Biological and Geographical Sciences, Univ. of Huddersfield

The natural world is full of tiny magnets: in the soil, in the water, and even in caves. These magnets have fascinating histories that can tell us about changes in the Earth's magnetic field, about rainfall and temperature, about soil microbes and even about industrial pollution. While scientists have been studying natural magnets for many years, it is only recently that magnetometers have become sensitive enough to measure the magnetism of cave deposits, like stalagmites and stalactites. This talk will introduce the wonderful world of cave magnetism, focusing particularly on our recent magnetic study of the flooding history of Waipuna Cave, New Zealand.

●

June 9th 2025: Expedition medicine: the art of applying science to cavers

With: Rostam Namaghi

No abstract was supplied for this seminar.

●

September 15th 2025: Forgotten Voices Speak: Recording historic graffiti in Kents Cavern, Torquay

With: Linda Wilson

The Raking Light team are working with the management at Kents Cavern, Torquay on a project to record and research the myriad inscriptions and other markings left behind by visitors to the cave. Early researchers such as Father



Waipuna Cave, New Zealand - image for 'Limestone, dirt and iron' seminar (above). Photo: Bethany Fox.

John McEnery and William Pengelly recorded many of the inscriptions they found, but noted that some were already being lost to a covering of calcite. As part of the cave's conservation plan, the aim is to record and photograph the current state of the inscriptions, as well as other marks throughout the cave made with chalk, candle smoke and pencil.

The project is amassing a wealth of detail about early visitors to the cave, and working with genealogical and historic records, the team hopes to shine a light on the identity of some of these people.

●

October 13th 2025: Cave Exploration, Guano, and Prehistory in Malaya and Borneo, 1870s-1960s

With: Katherine Enright, PhD student, Faculty of History and Museum of Zoology, Trinity College, Cambridge

In the late 19th century, inspired by rich paleontological and archaeological finds in temperate caves, scientists began to systematically explore the caves of peninsular Malaya and Borneo. Early speleologists were stymied by what they perceived as a general absence of artefacts, remains, and specialised animal species. Their conclusions led to a colonial perception of Malaya as a land where there is nothing old but nature. By 1900, scientific attention also turned to bat guano, on the cave floors, and how it might be commercially exploited as a phosphate fertiliser source for the growing plantation economy. In the writings of archaeologists, an antagonism developed towards these guano diggers, whose excavations disturbed the stratigraphy of potential field sites.

This talk will trace the work of subsequent cave archaeologists through the first half of the 20th century, centring on Batu Caves in Selangor, Gunung Pondok in Perak, and Niah Caves in Sarawak. Attempts to establish the prehistory of Malaya and Borneo coincided and interacted, in the 1950s and 60s, with the writing of a history of the new nation of Malaysia. I will conclude by considering the legacies of colonial speleology on research in the last several decades.

●

November 3rd 2025: Scientific Investigations in Greenland's Caves: Unlocking High Arctic Climate Histories

With: Gina Moseley, Assistant Professor of Palaeoclimatology, University of Innsbruck

Greenland's High Arctic caves represent a unique and largely untapped archive of past environmental change. Since 2015, the Greenland Caves Project has carried out multidisciplinary scientific investigations across several limestone cave systems between 80–82°N in North Greenland, including sites in Kronprins Christian Land and Wulff Land.

These caves host rare but exceptionally well-preserved flowstones that formed during past warm periods when the regional climate was wetter and the ground was warm enough that it did not contain permafrost, thereby allowing water to percolate through the ground and into the caves.

Through a combination of U-Pb dating, stable isotope geochemistry ($\delta^{18}O$, $\delta^{13}C$), trace element analysis, and petrography, The Greenland Caves Project has reconstructed aspects of Greenland's paleohydrology, permafrost dynamics, and atmospheric circulation during the Miocene, between 15 to 5 million years ago.

The cave records complement and extend marine and ice-core data, offering an independent terrestrial perspective on high-latitude climate variability. Ongoing work is focused on refining chronologies, improving paleoclimate proxies in Arctic cave settings, and integrating these records into broader paleoclimate frameworks. These findings highlight



Image for the Greenland Caves Project (above). Photo: Robbie Shone.

the scientific importance of Greenland's caves as high-latitude climate archives and underscore their sensitivity to past and future environmental change.

●

December 8th 2025: The Symonds Yat Cave System, Forest of Dean; initial scientific findings in the recent Redhouse Lane Swallet discoveries

With: Mark Tringham, Geologist

Hand-in-hand with the recent exploration, conservation and surveying in Redhouse Lane Swallet, initial findings have been made on a range of interesting speleogenetic and geological features. In particular, knowledge has been gained on the relict and present day drainage routes in the system that are contiguous with parts of the Wet-Sink-Slaughter Stream Cave. Copious amounts of cryogenic sediments have been found, including powdery calcite in the centre of many passages, fluffy mud and other mud mound features, bouldering and perched sediments on passage sides.

Running North-South through the centre of the newly found part of Redhouse, a prominent monocline structure has been intersected, and this geological structure has impacted on passage orientation and character, bringing the cave across and up stratigraphically from the Lower Dolomite Formation into the Crease and Whitehead Limestones. Within the Crease Limestone, colourful iron mineralisation and sandstone dykes have been seen in some places, and these are likely related to Intra-Carboniferous paleokarst development. Many of the very large passages found, by far the biggest in the Forest of Dean, follow massive wrench-faults, commonly containing impressive breccias many metres in width, and horizontal slickensides.

Much remains to be done on recording these and other features before any comprehensive analysis is possible. However, as before with the Wet Sink-Slaughter Stream Cave part of the Symonds Yat Cave System, science can point the way to further finds, and will continue feeding into the renewed impetus on exploration and digging that has been handsomely rewarded during the last 14 months.

●

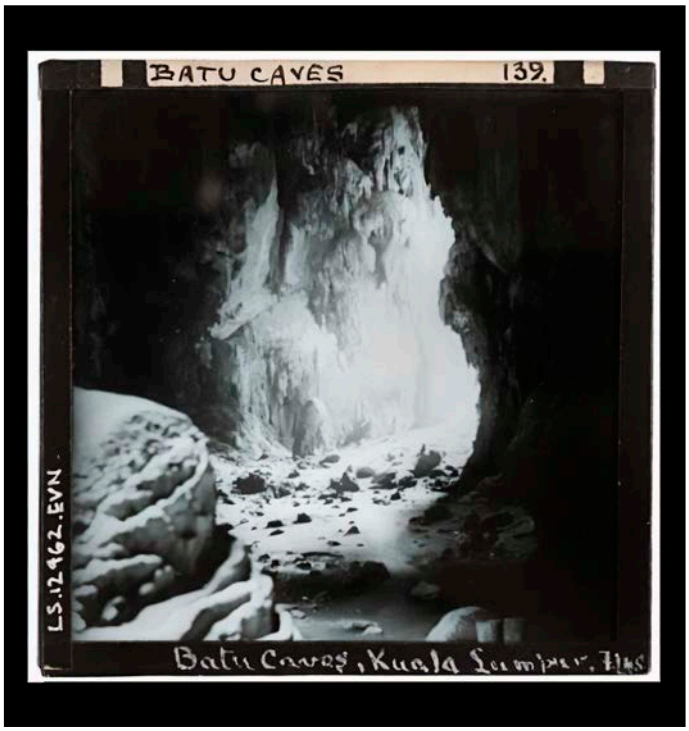


Image for the October talk on Cave Exploration, Guano, and Prehistory in Malaya and Borneo (previous page). Photo: Museum of Archaeology and Anthropology, University of Cambridge, LS.12962. EVN.



Image for The Symonds Yat Cave System (above). Photo: Bartek Biela.

Appendix 2

Draft Minutes of the 2025 BCRA AGM

These minutes will be presented for approval at the 2026 AGM.

Minutes of the Annual General Meeting of the British Cave Research Association held on Saturday 12th October 2025 as a joint in-person and online event. The meeting was held during the 36th BCRA Cave Science Symposium at the University of Bristol.

The BCRA Chairperson, Professor John Gunn, declared the Meeting open at 12.25 BST. At least twenty voting members were identified from the attendance list including those online, and so the meeting was declared quorate. The meeting closed at 13.15 BST.

1. Appointment of Recorder

Dave Shearsmith, BCRA Secretary, was appointed as Recorder. Additionally, an audio transcript of the Zoom meeting was prepared to aid in producing the minutes.

2. Apologies for Absence

Apologies for absence had been received from Russell Myers, Emily Tilby, Chloe Snowling and Andy Eavis.

3. Minutes of Previous AGM

The minutes of the 2024 AGM had been published online at **bcra.org.uk/agm**.

Motion for approval of AGM minutes:
It is proposed that the minutes of the 2024 AGM be accepted. **Proposed by** Dave Shearsmith, **Seconded by** John Gunn**.** The motion was carried unanimously.

4. Matters arising from those Minutes

None reported.

5. Chairman's report

The Chair gave a review of the Association's activities since the 2024 AGM. This will form part of the summary given in the Annual Report for 2025 that we submit to the Charity Commission, and is summarised below.

Members of Council in 2025
The ***trustees*** form the charity's governing ***Council***. There are ten members of Council elected by the members, plus the President (chosen by Council); and up to three additional trustees co-opted by Council from time to time. This totals 14 Trustees. In alphabetic order, the 2025 BCRA Trustees were:

Simon Bottrell (President), Andy Eavis, Andy Farrant (Treasurer), John Gunn (Chairman & Conservation Officer), Russell Myers, Rostam Namaghi (co-opted; BCA Chairman), Jenny Potts (British Caving Library Co-ordinator), Mike Rogerson (co-opted), David Shearsmith (Secretary & Safeguarding Officer), Chloe Snowling (co-opted; Foreign Officer & Liaison with GPF), Emily Tilby (online seminars), Jo White, Les Williams (Hidden Earth), Linda Wilson.

Members of Council for 2026
By the 30th of September nomination forms had been received from the following persons, each of whom is duly elected to Council:

Simon Bottrell (President 2025-2027); Andy Eavis; Andy Farrant (Treasurer); John Gunn (Chairman & Conservation Officer); Russell Myers; Jenny Potts (British Caving Library Co-ordinator); David Shearsmith (Secretary); Jo White; Linda Wilson.

As there are only 10 elected places Emily will be co-opted onto Council and the other 10 are duly elected. Rostam Namaghi, the Chair of BCA will also be co-opted onto Council. Dave Shearsmith has decided not to seek election and is thanked for serving as Secretary, and as Safeguarding Officer, since 2023. During that time, he has revived the monthly BCRA Newsletter and written or updated BCRA policies to meet the requirements of the Charity Commission, as well as undertaking many other tasks. Dave has kindly agreed to continue as Safeguarding Officer until a replacement can be found, and Jo White has agreed to act as Interim Secretary.

The Chairman asked if there were any nominations from the floor for the post of Secretary, but there were none.

Whilst we would encourage more BCRA members to consider serving on Council it is not necessary to be a Council member to contribute to the Association. BCRA are particularly grateful to David Cooke who is our IT Manager, to David Gibson our Webmaster, to Chris Howes and his team of Tratman Award judges and to Andi Smith and Adam Cooper for their work at the British Cave Science Centre.

Sub-committees
Thanks also to those who serve on BCRA Sub-committees with further information on their work on the website.

Library Steering Group
Jenny Potts (Chair of the LSG); Martin Laverty (IT, online bibliography/catalogue); John Gardner (IT, BCRA online archives); Chris Hunter (IT, Library webmaster, maintenance and update service); Mary Wilde – remunerated librarian (part time); Karen Slatcher – remunerated library assistant (part time).

CSTRF Awards Panel
Andrew Chamberlain (Chair); Andy Farrant; Rhian Kendall; Andrew McLeod; Graham Proudlove; Paul Wood.

Meetings held in 2025
Monthly zoom seminars:

- 13th Jan. Microbial Nitrogen Cycling and Cave Passage Modification in Mulu National Park. J. Max Koether, Department of Geology, University of Alabama.
- 10th Feb. Sulfuric Acid Speleogenesis: how can we recognize it and what can it teach us? Jo De Waele, Professor, Dept. of Biological, Geological, and Environmental Sci., University of Bologna.
- 10th Mar. The Underground Mistakes of My Career. Lessons learned from Maaras Cave, Greece. Christos Pennos, Aristotle University of Thessaloniki, School of Geology, Thessaloniki, Greece.
- 14th Apr. Palaeontological Perspectives on Caving in Thailand. Spyridoula Pappa, Senior Curator of Fossil Mammals, Natural History Museum.
- 12th May. Limestone, dirt and iron: using cave magnets to understand the past. Bethany Fox, Senior Lecturer, Dept. Biological and Geographical Sciences, Univ. of Huddersfield.
- 9th Jun. Expedition medicine: the art of applying science to cavers. Rostam Namaghi.
- 15th Sep. Forgotten Voices Speak: Recording historic graffiti in Kents Cavern, Torquay. Linda Wilson.
- 13th Oct. Cave Exploration, Guano, and Prehistory in Malaya and Borneo, 1870s-1960s. Katherine Enright, PhD student, Faculty of History and Museum of Zoology, Trinity College, Cambridge.
- 3rd Nov. Scientific Investigations in Greenland's Caves: Unlocking High Arctic Climate Histories. Gina Moseley, Assistant Professor, Institute of Geology, University of Innsbruck, Austria.
- 8th Dec. The Symonds Yat Cave System, Forest of Dean; initial scientific findings in the recent Redhouse Lane Swallet discoveries. Mark Tringham.

Hidden Earth
Hidden Earth started life as BCRA's annual caving conference and is now Britain's premier 'annual' event for cavers, sponsored by both BCRA and BCA. Both the 2024 and 2025 HE at Llangollen were well-attended & highly successful events. Many thanks to Les Williams & the HE team (and to Dave Shearsmith for manning the BCRA stall).

BCRA Awards
BCRA give three national awards, normally presented at Hidden Earth:

Arthur Butcher Award
Presented, broadly speaking, for "excellence in cave surveying". It was first awarded in 1988. It comprises a cash prize of £100 plus a trophy to keep for one year & is judged by a panel appointed by CSG. In 2025 the award was given to Becka Lawson "for decades of surveying, drawing up, and badgering people in many, many projects across the world. And particularly for training a lot of new people. More than one person we talked to described her as an inspiration, and some have gone on to be prolific surveyors themselves".

Tratman Award
Awarded annually for a caving-related paper-based publication in memory of E.K. Tratman, who died in 1978, to recognise excellence and encourage future improvement. The 2024 award was given to "Surrey's Ancient Stone Mines (2nd edn.)" by Peter Burgess. "Adventures Underground (2nd edn.) by Dave Haigh and John Cordingley received the accolade of being Highly Commended.

The Premier Trophy
BCRA's prize for cave photography, which was first awarded in 1975. It comprises a cash prize of £100 plus a trophy to keep for one year. In 2025 the Trophy was awarded to Bill Nix.

Meetings planned for 2026 and beyond
- No BCRA field meetings have been confirmed so far although some thought has been given to a field meeting in Devon and one at the BCSC. We would welcome offers to organise other field meetings.
- CAG, CSG and CREG may also be organising field meetings.
- Hidden Earth will take place in September 2026 and will again be at Llangollen.
- The next Cave Science meeting and BCRA AGM will be in October 2026.
- Thanks are due to the team who put together the British bid to host the 2029 ICS. Sadly, it was not successful and the event was awarded to Romania where it will be hosted by Babeș-Bolyai University in Cluj-Napolca.

BCRA Publications
- ***Cave and Karst Science***. Our primary publication is Cave and Karst Science which continues to appear three times per annum. As always, we invite those giving papers at this meeting to also submit to Cave and Karst Science. In an effort to encourage more BCRA members to contribute to the journal we now run at least one 'Photo Feature' in each issue. Please remember that posts on social media are ephemeral whereas a note in CaKS forms a permanent record.
- ***The CREG Journal***. The CREG Journal continues to be produced four times per annum with many articles of interest to cave scientists and technologists. A 1-year download subscription is only £4 – very good value!
- ***The BCRA Annual Review*** for 2025 is now available as a free download. The Review includes a copy of our annual "Report and Accounts" that was submitted to the Charity Commission. As always, Phil Wolstenholme, the Review Editor, has done a great job, but there is always a need for photographs with a science theme!
- ***Cave Studies Series and General Series Publications***. No publications thus far in 2025, but the CSS "Exploring the Limestone Landscapes of Arnside and Silverdale" is due later this year or early 2026.

We would love to have more publications, but we need people to write them!

CSTRF
- £45,000 was allocated up to the end of 2014, with a further £25,000 for the period 2015-2019. In 2019, Council allocated a further £25,000, extending the fund to the end of 2024, and in 2025 we agreed the same amount for a further five years.
- To date there have been 118 applications of which 95 were funded, the total amount awarded being over £100,000.
- So far in 2025 there have been 5 applications, and £5,445 has been awarded.
- A key concern is ensuring that grants result in reports published in BCRA journals!

Special Interest Groups
(see **bcra.org.uk/sig**)
- CREG publishes its own journal (as previously noted) and also organises occasional meetings, the first of which in 2025 is next weekend, 18 Oct, at Ingleton. See the BCRA website for further information.
- CSG has not held any field meetings so far in 2025 but operates several mailing lists & most activity in 2025 has been online discussion of the Survex survey drawing app. CSG has also been in discussion with BCRA's IT manager concerning the hosting of the UK's Cave Registry data on BCRA's new server. The Group meets informally at Hidden Earth where, this year, Wookey was re-affirmed as chairman and Andrew Atkinson as secretary.
- EUG. Almost dormant. Did not organise any meetings or events in 2024 or 2025, and its activity was limited to a small number of posts on its private mailing list. Attempts are being made to wake it up.
- CBG. Completely dormant with no activity over the past two years. Council would love to hear from anyone willing to start a species recovery programme.
- CAG. At the 2024 AGM I described them as being 'moribund' but Ric Peterson, assisted by Linda Wilson, has done a great job of reviving the archaeology group, including a new website and a meeting at Hidden Earth attended by 46 people.

The British Cave Science Centre
There is ongoing data collection and research, involving measuring rainfall, barometric pressure, temperature and drip rate. Sensors transmit data out of the cave in close to real time. Airflow, carbon dioxide concentration, radon concentration and the conductance, depth and temperature of the cave stream are monitored by stand-alone sensors.

UNESCO International Day of Caves and Karst (IDCK)
On 9th October the UNESCO Executive Board supported the IDCK proposal. Subject to a final proclamation in November at the UNESCO General Conference in Uzbekistan, we will start celebrating on 13 September 2026.

Chair's Summary and Thanks
A big 'thank-you' to all those who have contributed to the work of BCRA in 2025, in particular Katie Eavis, who provides excellent support for our *Just Go* membership system, and also for her work with the Library

There is a lot more that BCRA could do if we had the volunteers to help us. For example:
- How about volunteering to organise a field meeting?
- Or volunteering to organise an indoor event?
- We have ongoing need for assistance with publicity and with IT / web matters

A reminder that it isn't necessary for anyone to be a member of council in order to help BCRA, but if anyone is interested in serving on Council, please have a chat or email: **chair@bcra.org.uk.**

6. Council Report for 2024
The 2024 Council report to the Charity Commission had been published online at **bcra.org.uk/agm**. No points were raised for discussion.

7. Accounts for 2024
The Income and Expenditure Accounts and Balance Sheet for 2024 had been published online at **bcra.org.uk/agm**. No points were raised for discussion.

8. Motions received by the Secretary
No motions additional to those in the published agenda were received by the published deadline.

9. Announcement:
Nominations for Officers and Members of Council for 2026 was covered in the Chairman's Report.

10. Any Other Business
None notified.

11. Additional Documents comprising these Minutes
The minutes of the 2024 AGM, the Council Report and Accounts for 2024 are on the BCRA website at **bcra.org.uk/agm**.

12.Appendix – Attending Members (listed, see note below)
The list below (in no particular order) does not make any distinction between in-person or online attendance.

John Gunn, Dave Shearsmith, Andrew Farrant, Jo White, Russell Myers, Mike Rogerson, Jenny Potts, Simon Bottrell, Chloe Snowling, Graham Mullen, Andrew Chamberlain, Gina Moseley, Helen Goldie, Marie Chapman, Andrew McLeod, Emma Healey, Stephen Donovan, Johnathan Vetterien, David Richards, Luca Castrogovanni, Sebastian Breitenbach, Rick Peterson, Beth Fox, Rick Petersen Martin Laverty, Stephen Ewell Sutton, John S. Cooper, Matt Rowberry, Ian Wallace.

NOTE: Due to technical issues this list might not be complete.

Minutes written by Dave Shearsmith.

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